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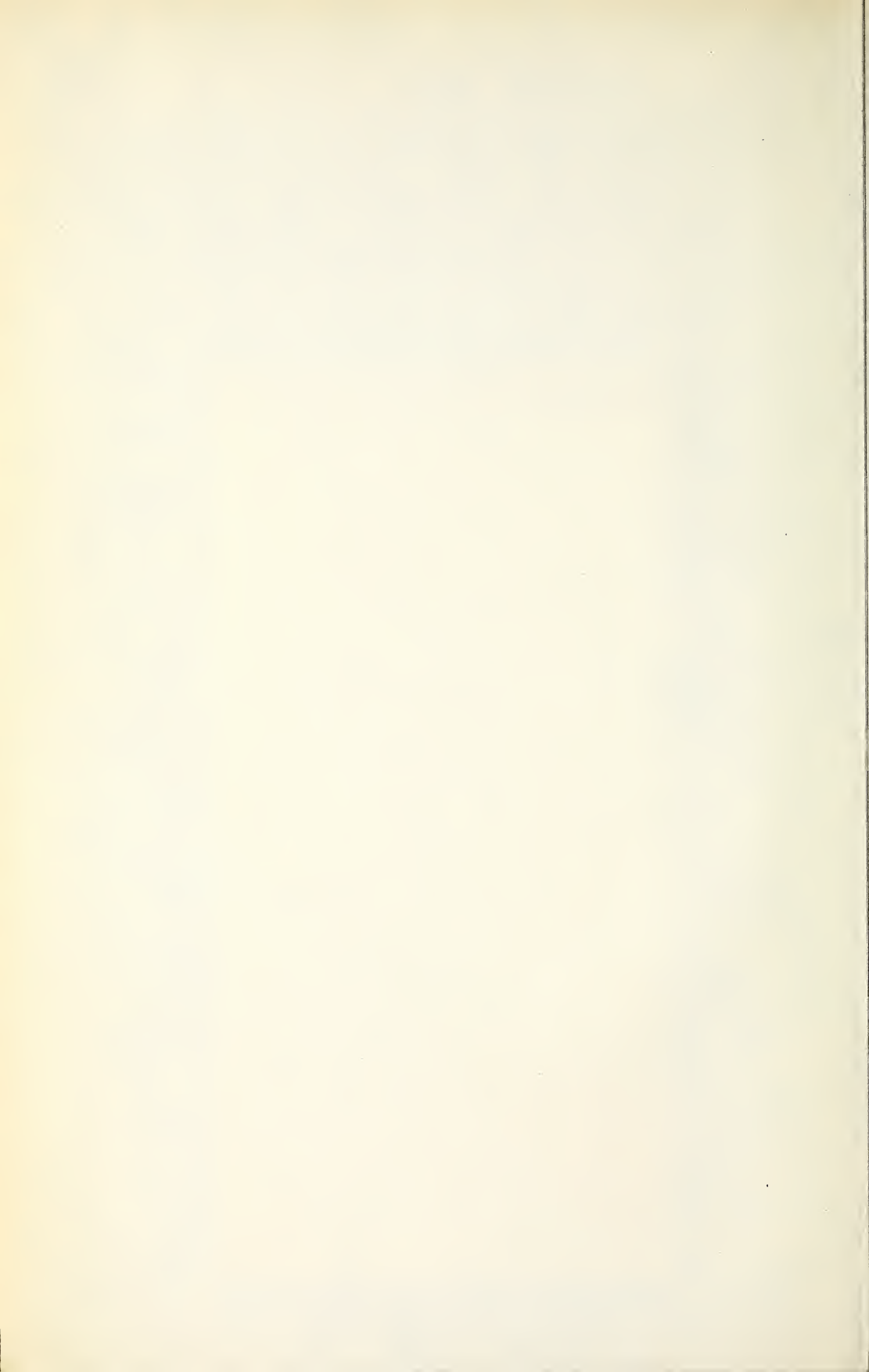
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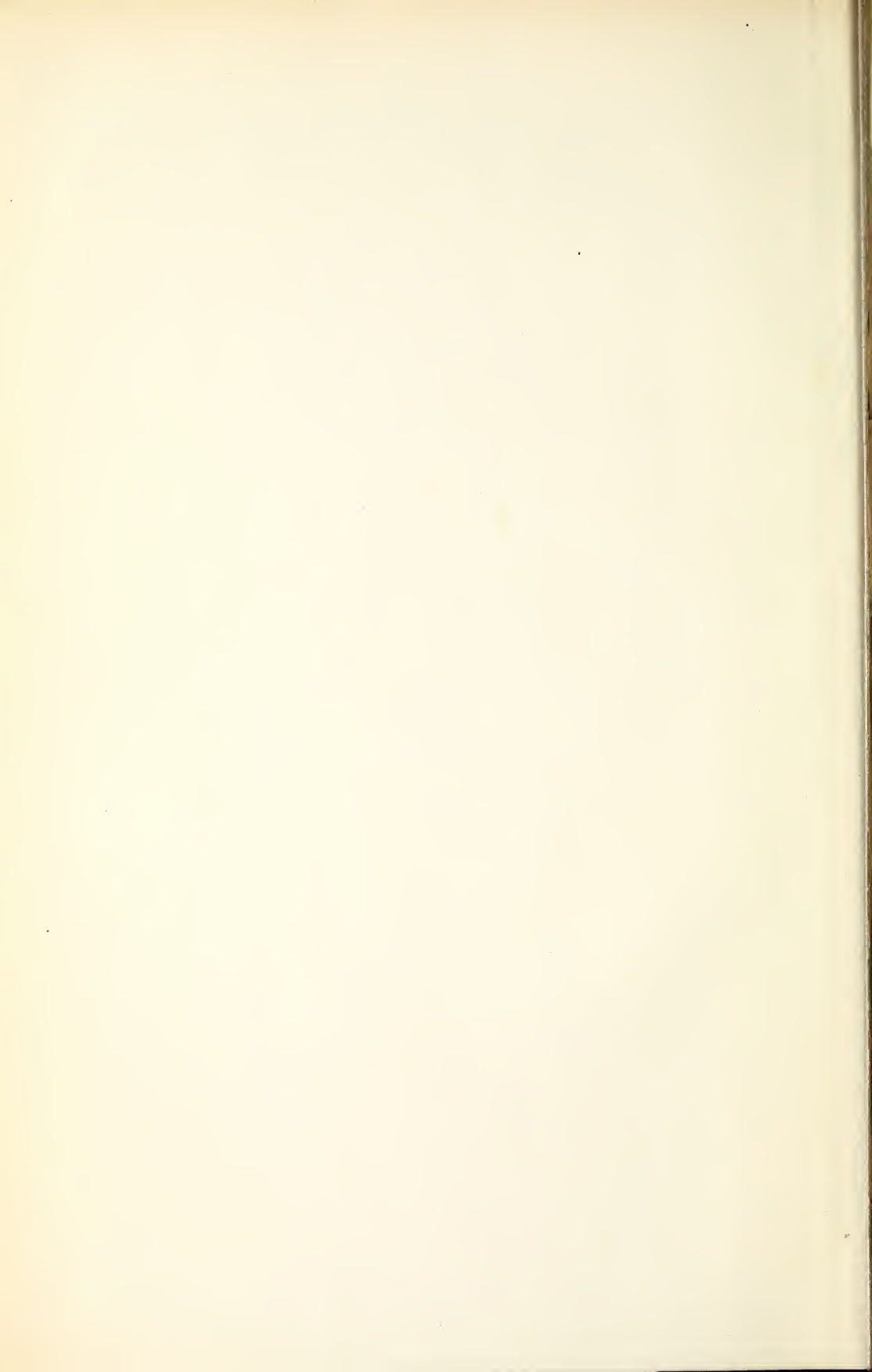
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Original Communications.

GIANT CELLS.¹

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UNDER ordinary conditions cells divide by the well-known mitotic processes, and this applies to those of the lower organisms as well as of the highest: the notion, previously held, that amitotic represents the primitive method, and mitotic a later improvement on this, being now abandoned. Amitotic division is comparatively uncommon, and its occurrence is, by most authorities, held to be an indication of approach to degeneration: the resulting tissue being short-lived, although for a time the increase in numbers of the cells may be extremely rapid.

Physiologically amitotic cell-division has been observed to occur in the ovarian follicle cells of certain insects and crustaceans by Korschelt and Carnoy, whilst von Rath (1893) has noticed it in the supporting cells of the testis, but never in the spermatogonia of vertebrates, mollusks, and anthropods. Meves (1894) differs from von Rath and claims to have found amitoses in the spermatogonia of the salamander: this, however, occurring but seldom, and chiefly in the colder months, so that it seems quite probable that the resulting cells are not active spermatozoa.

¹ Photographs taken by B. H. Buxton, M.D., at the Loomis Laboratory, Cornell Medical College, New York, from original specimens prepared at the General Memorial Hospital. A Powell and Lealand $\frac{1}{4}$ -inch oil immersion was used for the magnifications of 250 diameters, and for that of 700 diameters a Spencer $\frac{1}{10}$ inch brom-naphthalin immersion. Reproduced in Alberttype by the Alberttype Co. of Brooklyn, N. Y.

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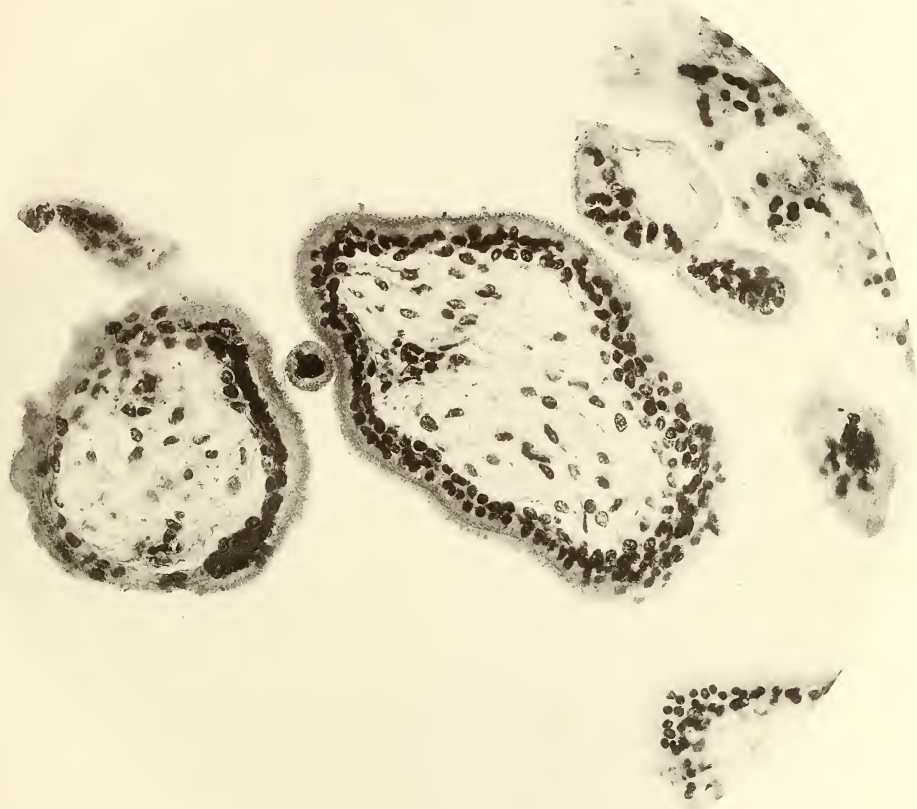
In these instances the cells are transient in nature, and only for a comparatively short time perform their special functions.

Pathological.—Leucocytes increase normally by mitosis, but in inflammatory processes, where they are suddenly required in immense numbers for a temporary purpose, they increase amitotically. Their functions under these circumstances appear to be to break down inter-cellular substances, neutralize toxines and other poisons, by means of their secretions, and finally to carry off débris by means of their phagocytic properties. Having done this and cleared the way for the regenerative cells, they die and are absorbed.

It appears that cells may occasionally divide amitotically for a time and then resume mitosis. Preusse (1895) considers this to be the case in the cells of certain insect ovaries, whilst Pfeffer (1899) shows that "if spirogyra be placed in water containing $\frac{1}{2}$ to 1 per cent. of ether, active growth and cell division occur, but only amitotically. If, however, the plant be replaced in pure water, mitotic division is resumed, and normal growth continues." Wilson (1900) from whom this is quoted, concludes that amitosis does not necessarily mean the approach of degeneration, at any rate in the lower forms of life, but only a special condition, though a fairer inference would seem to be that the tendency to degeneration has not proceeded so far that it cannot be recovered from on a return to normal conditions. The experiment seems to confirm the degeneration hypothesis rather than to render it doubtful.

Some steps nearer to the approach of degeneration are those cases where amitotic nuclear division is not followed by cell-division; the resulting tissue consisting of a continuous protoplasmic mass or syncytium, containing numerous nuclei.

Physiologically, we find such a tissue in the syncytium of the embryonic chorion villi. It is not yet determined if this syncytium is of maternal or fetal origin, Kossmann and Pels-Leusden (1897) being the chief upholders of the former view, whilst Marchand (1898), Aschoff (1898), and Minot incline toward the latter. Whatever its origin, however, it is beyond dispute that the syncytium of the chorion forms the line of demarcation between mother and fetus, so that all the nourishment and oxygen received by the latter has to pass through the syncytial layer. It is, therefore, essential that this increase very rapidly, so as to quickly afford an extended surface, and since it is only required for a short period of time it is immaterial if it contain the elements of early decay. The nuclei therefore divide amitotically with great rapidity, and the whole structure is in a condition of degeneration at the time of parturition. It is doubtful if any part of the syncytium actually lives during the whole nine months of gestation, since it seems,



Chorionic Villi from human ovum twenty-five days old,
showing syncytium. X 250.

according to Minot, to be in a constant state of decay and renewal. It is not improbable that the syncytium is also of use in providing a continuous protoplasmic surface for absorption instead of one with a series of breaks and consequent possible leakage.

Pathological.—In a very interesting article by Loeb (1897) on regeneration of the epidermis, he shows that this is effected in what may be termed a duplicate fashion. In the first place the upper layers of the rete Malpighii around the margins of the denuded surface began to proliferate. Their nuclei divide amitotically and this is not followed at once by cell division, though it occurs imperfectly later on. At first a syncytium is formed which rapidly covers the surface of the wound, but this is only a temporary covering, being gradually replaced from below by cells derived from the basal layer, which divide in the ordinary way by mitosis, and by means of which a fresh permanent layer of epidermis is formed. Here again we have amitotic nuclear division and formation of a syncytium where rapid growth is essential without, however, any necessity for permanence. Loeb's views are certainly not generally accepted, but he appears to have made a more careful study of the process than most observers.

Coming now to the subject-matter of the article—giant cells—we find that in their early stages, whilst the nuclei are still few in number these may divide mitotically (Goldman, Baumgarten, Manasse), though the mitoses are apt to be multipolar and otherwise irregular. Other observers (Marchand, Von Bungner, Welcker) could find none even in early stages. All agree, however, that later on, when the nuclei become more numerous, and the giant cell, as such, is formed, division takes place amitotically only. This nuclear division not being followed by cell division it is evident that multinuclear giant cells must be looked upon as essentially syncytial in nature, and as containing in themselves the elements of early decay. It is true that giant cells do not show the rapid growth so characteristic of the syncytia already mentioned, but Henneguy (1896), following Herbert Spencer, clearly shows that where cells retain their original spherical or polyhedral shape, with increase in bulk, the ratio of surface to cell contents decreases by geometrical progression, and that such cells become less active and capable of division as they grow larger. He compares bacteria with amebæ.

In the syncytia of the chorion and regeneration of epidermis the lateral growth enables the usual proportion between surface and cell contents to be maintained, so that rapid increase is possible, whilst giant cells being, no doubt, prevented by the surrounding tissue from spreading laterally, retain practically their original shape, so are slow

of growth and limited in size. The prolongations they often exhibit may perhaps be taken as representing attempts to attain an increase of surface.

Although some observers (von Rindfleisch, 1894) have maintained that giant cells occurring in chronic inflammatory processes, etc., may become organized and help to form scar tissue, yet the balance of opinion is adverse to any such views, and it is generally held that a giant cell, whether physiological or pathological, is a giant cell, that it lives for a time as such, and as such it dies.

It appears, however, that in an early stage the growth of giant cells may become arrested: they may break up into cells resembling the present cells, and resume their normal career. Once, however, the nuclei have begun to divide amitotically there is no return possible. There seems to be some analogy between this, and the results obtained in the spirogyra experiments.

The disposition of the nuclei in giant cells varies, and may be considered to fall into two groups, between which, however, no hard and fast line can be drawn.

1. *Myeloid Type*.—The nuclei are grouped centrally or irregularly distributed. Typical in cases where inert, indigestible material is present. May be physiological or pathological.

2. *Langhans Type*.—The nuclei are grouped at the periphery of the cell: either all round the margin, or at one of the poles. Typical in chronic inflammatory processes. Always pathological.

On consultation of the literature pertaining to the subject of giant cells, especially so far as it relates to those found in tuberculosis, which may be taken as typical of all slowly progressive mycotic inflammations in which giant cells are formed, we find opinions greatly divided; the following table representing the extreme views on either side, which generally speaking, may be called those of the French school and of the German school.

Progress of Tuberculous Infection in Regard to the Formation of Giant Cells.

FRENCH SCHOOL.

Metchnikoff, Borrel, etc.

1. Invasion of small mono- and polynuclear leucocytes, which are: phagocytic.

2. Advent of larger mononuclear formative cells:

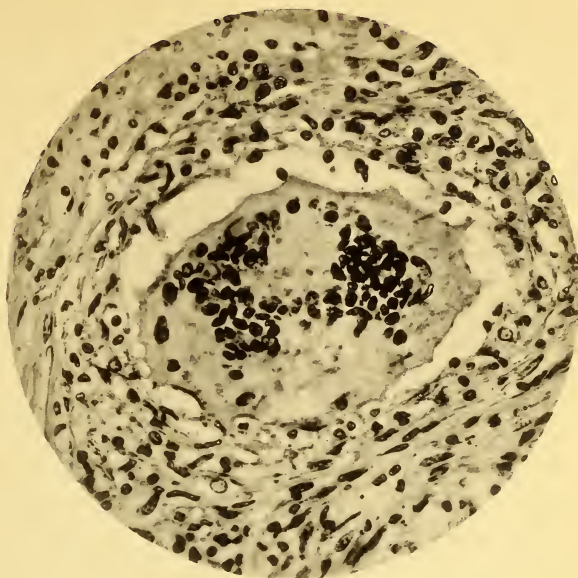
Of leucocytic origin.

GERMAN SCHOOL.

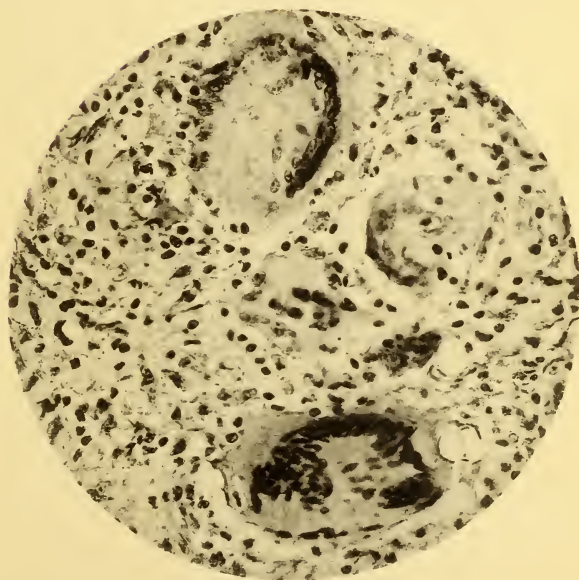
Weigert, Marchand, etc.

not phagocytic.

of connective tissue or endothelial origin.



a.



b.

a. Early stage of giant cell in miliary tuberculosis of peritoneum. As yet there is no peripheral arrangement of the nuclei. X 250.

b. Later stages of giant cells from a case of Lupus showing the Langhans type. X 250.



- | | |
|--|--|
| 3. Which form giant cells :
by grouping themselves around
masses of bacilli, and fusing. No
nuclear division. | by amitotic nuclear division of a
single cell. |
| 4. The giant cells have
ameboid movements. | no ameboid movements. |
| 5. They are
phagocytic. | not phagocytic. |
| 6. The protoplasm of those parts
is specially active, whilst the nu-
clei are grouped in the less active
parts. | of the cell destitute of nuclei
has undergone partial necrosis,
whilst the nuclei are grouped in
those parts of the cell which have
retained their vitality. |

This table represents what may be called the views of the extremists on either side, but between these are to be found every possible modification: some others inclining to one side and some to the other, whilst there is no absolute and entire agreement between any two of them.

At this point one is forcibly reminded of Mark Twain's sensational novel, in which he got his hero into such a fearful tangle of complications that he had to leave it to his readers to get him out of it as best they could. But it will be more interesting to face the music and critically examine the situation from the various points of view.

Before taking up the points mentioned in the table it may be well to consider the formation of physiological giant cells as found in bone, and of the so-called foreign body giant cells.

Bone, especially in the earlier stages of its formation, is continually passing through periods of resorption and reconstruction, with formation of Howship's lacunæ, in which giant cells (myeloplaxes), clinging to the surface of the bone where resorption is proceeding, are constantly found, and outside of these a zone of granulation tissue. The earlier observers held that the myeloplaxes were the chief agents in the resorption processes and Kolliker named them osteoclasts. This position has been much contested of late, and it seems more probable that the resorption is due to the activity of the granulation tissue, of which the myeloplaxes are modified portions. The granulation cells lying nearest to the hard, inert surface of the bone, and being pressed up against it by the invading tissue, are not bathed in lymph from all sides as they would naturally be. Nutriment therefore is insufficient, and this leads to imperfect cell division. The giant cells, no doubt, are active agents in so far as they are a part of the granulation tissue, but are not in themselves the specific cause of the resorption.

It is true that the myeloplaxes are found throughout life in the bone marrow, but they usually show signs of fatty degeneration, and do not give the impression of durability. It is probable that they are being constantly formed wherever resorption is proceeding, and after formation float off into the marrow, where they exist for a time, and gradually disappear. Meyer (1893) takes this view of their origin, although he believes in their specific functions. The opposite view that the giant cells of the marrow are a reserve fund of osteoclasts, which multiply as occasion arises for bone resorption, may be correct, but cannot be held by any one who believes that the nuclei of giant cells divide amitotically, and that the cells themselves are of a syncytial nature, since this belief would exclude the possibility of their durability and power of originating similar independent cells.

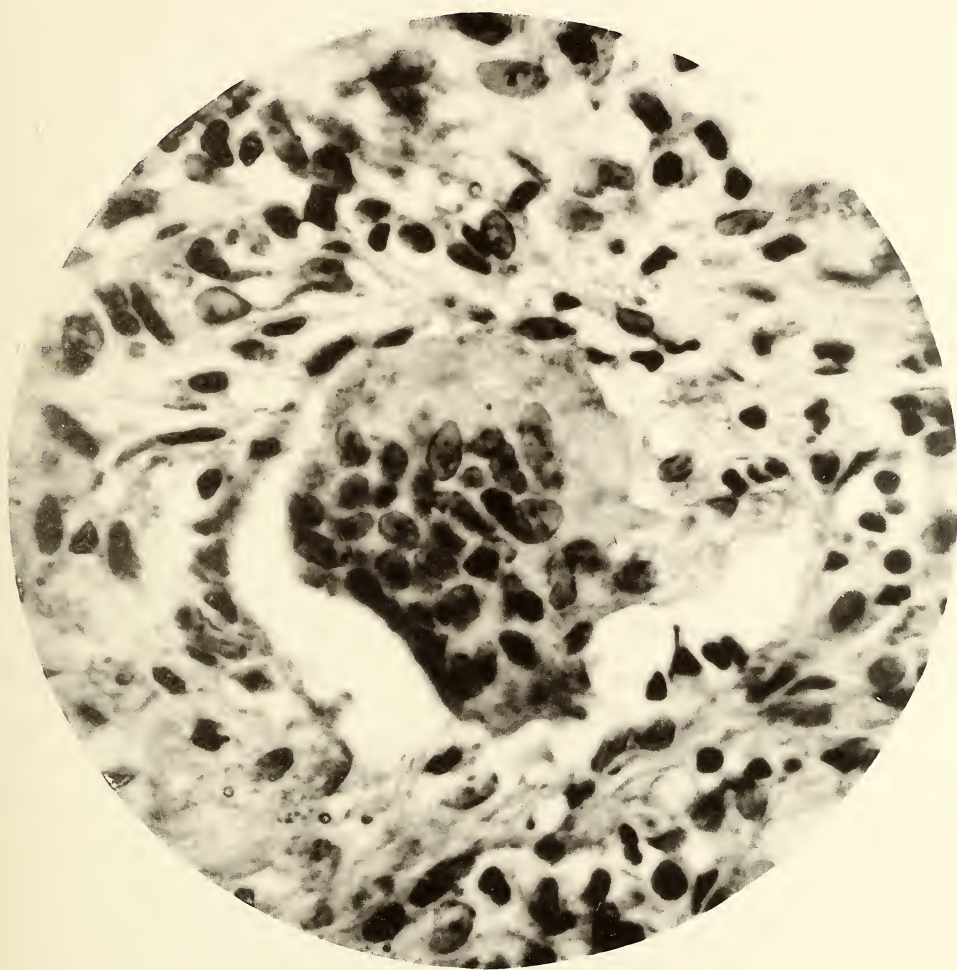
In pathological lacunar absorption the processes are similar, but it is significant that in occasional instances where absorption is proceeding very rapidly, there is formation of Howship's lacunæ filled with granulation tissue without giant cells (von Recklinghausen, 1891). One can imagine that where pressure on the cells lying next to the bone is rapidly relieved there is no interference with nourishment and, therefore, no imperfect cell division.

Foreign Body Giant Cells.—Where some extraneous material is inserted in the tissues, either accidentally, surgically, or by way of experiment, there is at first leucocytic invasion, quickly followed, if there is no suppuration due to bacterial infection, by the appearance of formative granulation tissue, which soon surrounds the substance. If this latter be soft and easily absorbable, as lung or liver tissue, there are no giant cells formed, but if it be hard or indigestible, such as a piece of sponge, catgut, or bone, with the advent of the granulation tissue, giant cells make their appearance, closely hugging the surface of the foreign body.

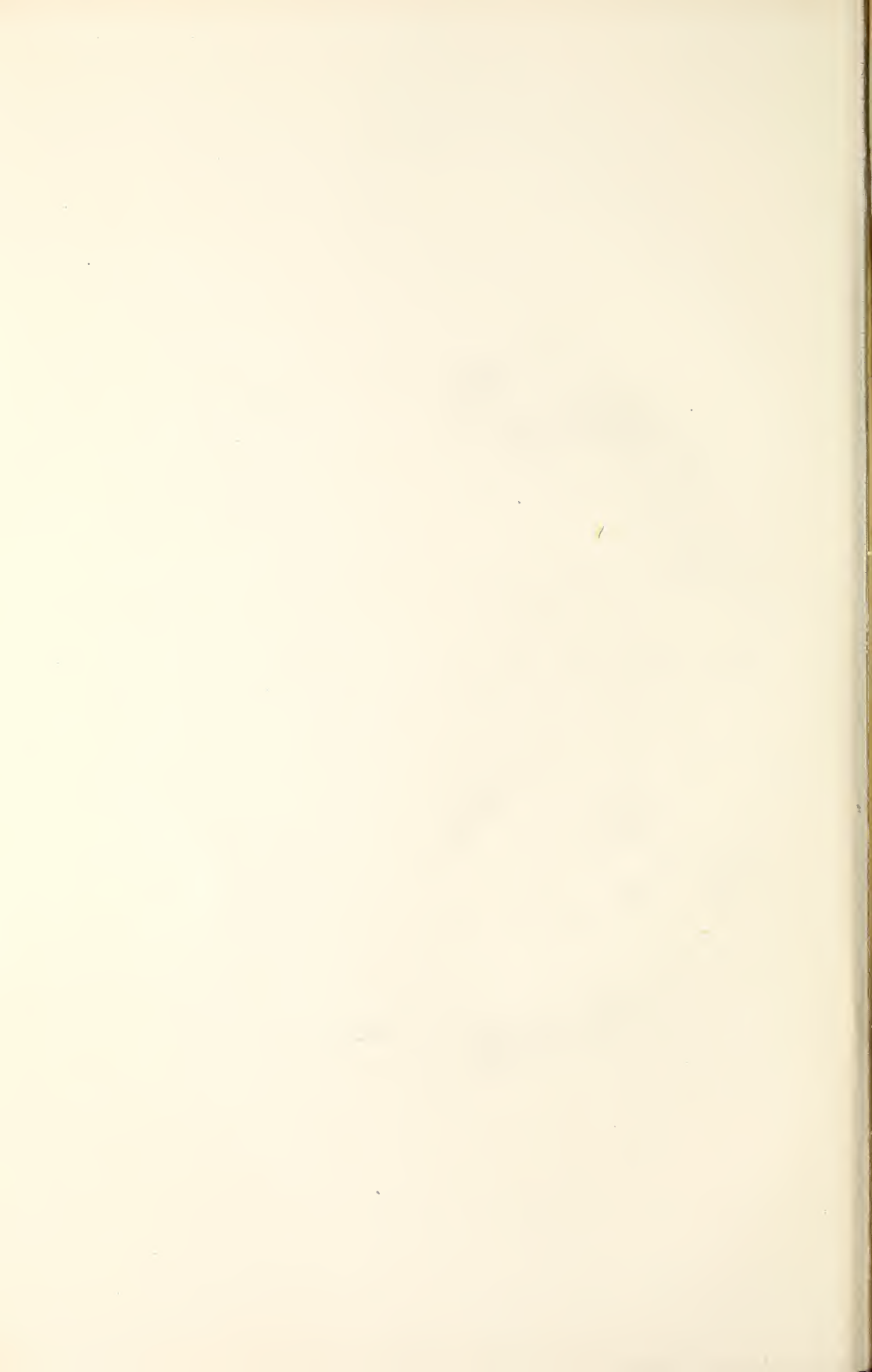
The reason for their appearance seems to be the same as in the case of bone absorption: the granulation cells nearest to the foreign body, being pressed closely against it by the actively increasing tissue, are insufficiently nourished with resulting abnormal nuclear and incomplete cell division.

That leucocytes of the early invasion give rise to the giant cells in foreign body intrusion seems unlikely for:

1. Giant cells do not appear until the advent of granulation tissue.
2. Their formation begins at the periphery of the foreign body in the granulation zone.
3. Their nuclei and cytoplasm resembles those of the granulation cells.



A myeloid giant cell from a case of Epulis. X 700.



4. Some leucocytes penetrate the foreign body and come to a standstill there. Here would be the place for them to form giant cells if they could, but these are found at the periphery only, and never inside the foreign body (Hamerl, Von Bungner).

Krückman and others maintain that epithelium may occasionally give rise to giant cells, and there seems no reason to suppose that their conclusions are incorrect.

Returning now to the table showing the extreme views on either side as regards the processes of giant-cell formation in tuberculosis, each point can be taken up separately.

1. Invasion of small mono- and polynuclear leucocytes.

All agree that this is the first step in the attempted destruction of the tubercle bacilli, and the question of their phagocytic properties need not concern us, as no one, except perhaps Arnold, supposes that they give rise to giant cells.

2. Advent of large mononuclear formative cells.

Since it is agreed that it is from these that the giant cells are formed, the question of their origin is of interest. Metschnikoff, Borrel, and Arnold claim that they are of leucocytic origin.

Borrel (1893 and 1894) in his experiments injected tubercle bacilli into the ear veins of rabbits, and found the bacilli were intercepted in the capillaries of the lungs, where tubercles were quickly formed; at first in the capillaries and later in the alveoli. He observed that the larger mononuclear cells appeared in the capillaries in forty-eight hours, and argued from this that they must be of intravascular origin and, consequently, leucocytic. Cornil and Yersin have arrived at the same conclusions. Arnold (1893), studying inflammation in the mesentery of frogs, noticed the appearance in twenty-four hours of mononuclear, spindle and branching cells, and concluded that in such a short space of time these could not have been formed from the fixed cells, but must necessarily have arisen from the leucocytes of the early invasion. Arnold concedes, however, that the granulation tissue of leucocytic origin is probably only temporary, being replaced later by tissue derived from the fixed cells. Formerly Ziegler and many German observers held similar views, but have now abandoned them in favor of the origin of the granulation from the fixed cells of the connective tissue in which are included the endothelium of the vessels, lymph spaces and serous cavities. They admit, however, that the connective tissue cells of young granulation tissue possesses mobility and that at this stage it is difficult to judge with certainty between them and the large mononuclear lymphocytes, although there are differences in the appearance of the

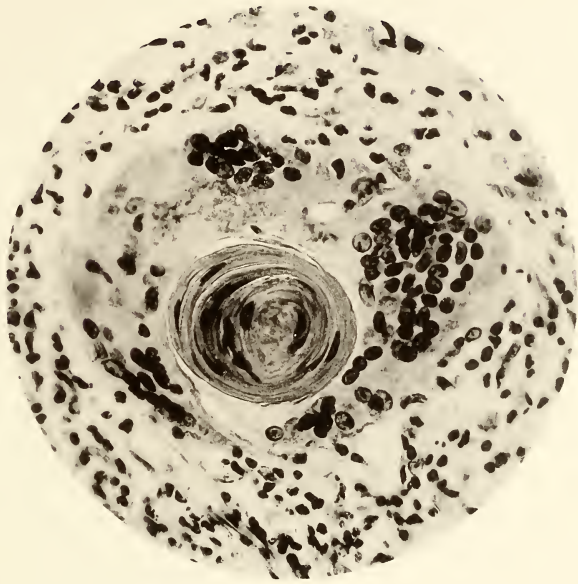
nuclei, the cell protoplasm, and mitoses by which they can be distinguished.

When we speak of round-cell infiltration it must be confessed that under this appellation both leucocytes and early granulation cells are included, between which no differentiation can be made by the ordinary observer. As Unna justly remarks: "The expression round-cell infiltration is a cloak made to cover many gaps in our knowledge."

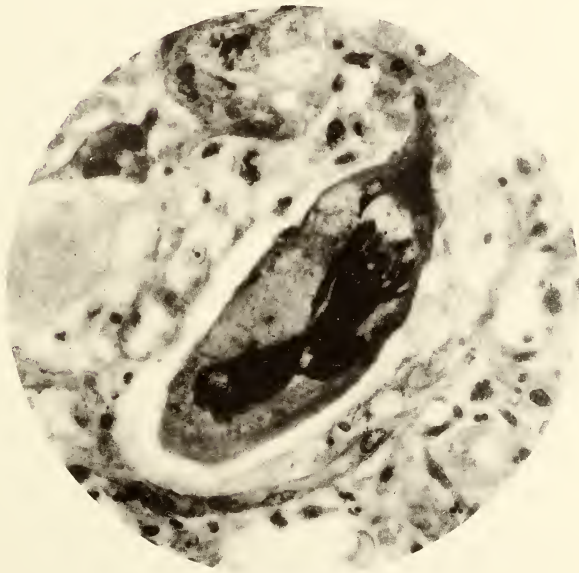
It does not seem inherently impossible that leucocytes should be able to give rise to connective tissue. It must be remembered that in invertebrates, leucocytes and mesodermal cells are one and the same thing, whilst in vertebrates they are both derived from the ameboid mesenchymal cells of the early embryo. On further development those mesenchymal cells, which remain in fluid media, such as lymph and blood, continue their ameboid existence, whilst others which find themselves in the gradually thickening mesenchymal substances become fixed connective-tissue cells. In inflammatory processes the intercellular substances are broken down by the action of the leucocytes, and in consequence of this the connective-tissue cells are set free in a fluid medium resembling that of the embryonic mesenchymal fluid. They now take on ameboid movements and, mingling with the leucocytes, cannot be distinguished, at any rate from the large mononuclear ones, although, as already mentioned, some German authors claim that there are certain differences between them. In any event it seems that connective-tissue cells do not become very highly differentiated, but can readily adapt themselves to their environment: returning, as it were, on occasion to their early embryonic forms. Per contra it is not unreasonable to suppose that leucocytes, whose origin is the same as that of the connective-tissue cells, may also be capable of adaptability, and, given a suitable environment, can take upon themselves the characters and functions of the latter. It is certainly improbable, though not inconceivable, that leucocytes and connective-tissue cells, are interchangeable.

3. Origin of giant cells.

The extreme view held by Borrel that they are formed by fusion of several cells without any subsequent division of nuclei does not seem to be shared by any one else, and it may be taken for granted that there is, at any rate, amitotic division of the nuclei after the commencement of formation of the giant cell. But the question as to whether they arise from one cell or by fusion of several must be considered as still "*sub judice*." The conclusions of some authors may be given, but it hardly seems worth while to recapitulate their arguments in favor of their views. For the most part they are pious opinions and nothing more.

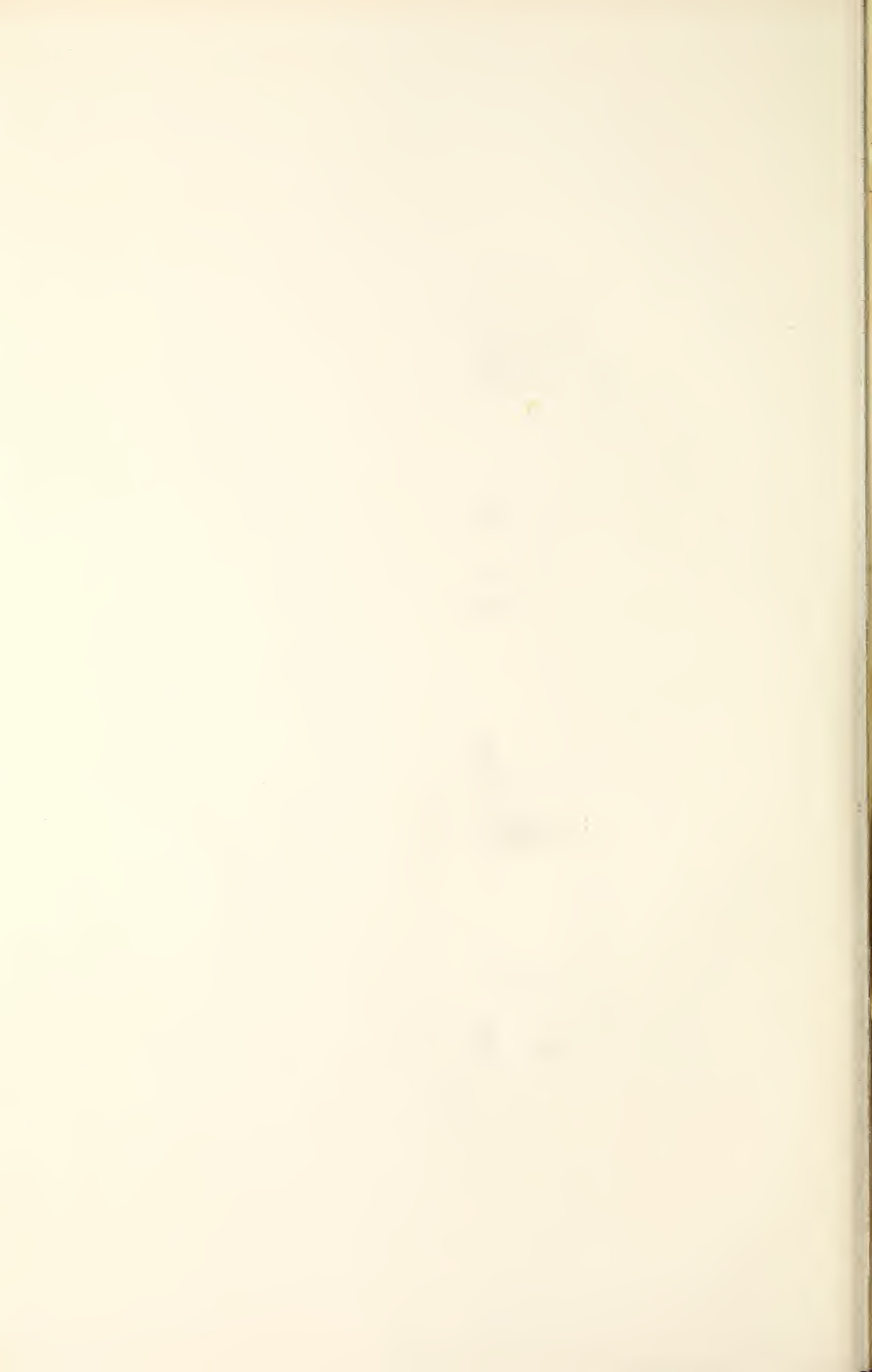


a.



b.

- a. Myeloid giant cells surrounding a horny epithelial pearl in epithelioma. X 250.
- b. Large—mis-called giant—cell from a periosteal sarcoma of thigh showing intense nuclear hyperchromatism. X 250.



One Cell.—Goldman, Welcker, Birch Hirschfeld, Baumgarten.

Several Cells.—Von Bungner, Borrel.

One Cell, or several, according to circumstances.—Manasse, Metschnikoff, Krückmann, Ribbert.

The older pre-tubercle bacillus view of Ranvier and Cornil (1878) that giant cells arise from metamorphosed vessels—the giant cell with the surrounding epithelioid cells representing an obliterated capillary—is now abandoned, though Borst (1896) seem to think it may be true in some instances.

4. Ameboid properties of giant cells.

Metschnikoff did not attempt to observe giant cells in the living condition on the warm stage, but the long protoplasmic processes which they exhibit in fixed preparations he considered as pseudopods, and concluded that the cells possess mobility.

Weigert (1888), Welcker (1895), and others who have observed giant cells on the warm stage, have been unable to detect any such ameboid movements as are shown, for instance, by leucocytes, and from the appearance in fixed preparations of what are known to be ameboid cells we can only conclude that true pseudopods cannot be fixed. Leucocytes appear as spherical cells, the pseudopods evidently being retracted at the moment of fixation; *i. e.*, death of the cell.

An illustration may be taken from the early embryo. After the establishment of the three primary germ layers, all of which are epithelial in character, there is serous effusion between the middle and two outer ones. Cells now detach themselves from the middle layer or mesoderm, and, taking on ameboid movements, wander into the effusion or mesenchymal fluid; being now no longer epithelial but mesenchymal cells, from which, for the most part, connective tissue will be formed. At this stage such ameboid cells in fixed preparations appear spherical. Later on, the mesenchymal fluid becomes thickened and mucilaginous, so that the cells can no longer wander, but become fixed, their pseudopods forming elongated protoplasmic processes which anastomose with those of other similar cells and cannot now be retracted. In fixed preparations these processes are visible, affording, with the cell bodies and intracellular substances, the well-known appearance of mucoïd tissue.

The long processes of the giant cells, therefore, are almost certainly fixed, being probably continuous with the reticulum of the tubercle, and cannot be retracted. Schmaus and Usinsky (1894) claim to have demonstrated that many of the prolongations of the epithelioid and giant cells in tubercle anastomose, and contribute to the formation of the intercellular network or reticulum. The presence of

such prolongations in fixed preparations is an argument against the mobility of giant cells, and we may fairly conclude that these have no ameboid movements.

5. Phagocytic properties.

If it be conceded that giant cells are destitute of mobility, phagocytic properties must also necessarily be denied to them.

6. Disposition of nuclei, etc.

This question may be said to resolve itself into a battle royal between Weigert and Metschnikoff, other writers on the subject contenting themselves with applause or dissent. Weigert in 1885 opened fire by attempting to account for the peripheral arrangement of the nuclei in cells of the Langhans type found in tuberculosis, by supposing that, in consequence of the action of the toxins, elaborated by the bacilli, the center of the cell has undergone partial necrosis. The nuclei consequently group themselves at the periphery or at one pole, where the cytoplasm is still active. He points out that in comparatively early stages, whilst the bacilli are few in number, they are found in the center of the cells with the nuclei at the periphery (commencement of necrosis).

Later on, the bacilli become more numerous and take on a radial arrangement, just internal to the nuclei and pushing in between them, whilst none are found in the center.

This he accounts for by supposing that owing to progressive necrosis at the center, nourishment becomes exhausted there, and the bacilli work their way towards the periphery.

The center of the cell at this stage stains but faintly, and this he also takes as evidence of degeneration.

Metschnikoff, in defense of his favorite phagocytic theory, points out that in the giant cells some of the bacilli take the red or violet stain very poorly, whilst in the center of the cell are small yellow masses which he supposes to be the remains of dead bacilli or rather of sheaths secreted by them before death as a means of defense against attack by the cell.

Koch had already observed these yellow bodies and, regarding them as some of the original infecting bacilli which had died a natural death, of old age, argued in favor of a certain durability of the giant cell.

Metschnikoff held that they represent bacilli which have been killed by the phagocytic properties of the cell, and maintained that the center is the more active part, whilst Weigert, in reply, contended that they are probably not remains of bacilli at all but altered portions of the cell protoplasm.

There seems little doubt, however, that Koch and Metschnikoff

were correct in their observations, and Weigert's safest retort would have been that the yellow bodies are bacilli which have been killed by the action of their own toxic products.

Metschnikoff does not seem to have dwelt much upon the faintly staining qualities of the cell center, but his follower, Borrel, maintains that this is due to the large quantities of digestive material present, and instances the case of goblet cells as analogous. This certainly is rather far-fetched, and Weigert seems to have the best of the argument: the necrosis theory much more readily accounting for the actual appearances than the opposite view. The question may be also approached from what might be called the phylogenetic standpoint.

In physiological giant cells we find the nuclei always grouped in the center of the cell—the typical myeloid cell. The cytoplasm being equally active throughout, the nuclei take up their natural position in the center.

In inert foreign body intrusion giant cells are formed, some of which have the typical myeloid appearance. In others the nuclei are irregularly scattered throughout the protoplasm, whilst others again approach the Langhans type, though it is reserved for tuberculosis and other infective granulomas to show this type to perfection. We can readily suppose that bone being a part of the organism, there is nothing set free from it on absorption, which is actively injurious to the cells: the giant cells being formed simply on account of lack of proper nourishment.

An extraneous foreign body, on the other hand, is likely to contain substances which, on being set free by gradual absorption, would act deleteriously on the cells. The giant cells are formed in the first instance from lack of nourishment, and later suffer more or less from the action of such substances upon them. The greater the injury to the cells the greater the likelihood of some portions becoming necrosed. From such portions the nuclei would recede, and the cell approach the Langhans type.

In tuberculosis and similar infections it is probable that where one or a few micro organisms come to a standstill, the first granulation cells which appear find their nourishment sufficiently interfered with by the toxins to prevent their normal increase by division. A giant cell is then formed either by fusion of several or increase of a single cell; if the latter, probably the one into which the bacilli first penetrate. At first the giant cell does not necessarily assume the Langhans type, but as the bacilli increase in number their toxic products cause progressive necrosis of the center and the peripheral arrangement of the nuclei

becomes more marked. Generally speaking, therefore, the greater the injury to the cell the nearer does it conform to the Langhans type.

Giant Cells in Tumors.—There are certain sarcomas arising in connection with bone marrow, which contain multinuclear giant cells, resembling the normal myeloplaxes in every respect. Evidently such cells must be derived either from pre-existing myeloplaxes, or, if the possibility of these undergoing cell division be denied, from fixed connective-tissue cells, represented in the tumor by spindle or round cells, which are numerically always greatly in excess of the giant cells. The giant cells themselves, however, are often found in large numbers and the only way in which the latter hypothesis can be made to account for their presence is by supposing them to be formed at the margins of the advancing tumor where the bone is being resorbed, and after formation remaining among the ordinary tumor cells whilst the bone recedes on account of the progressive resorption, the giant cells existing for a time, but probably taking no active part in the further development of the growth.

The giant cells in such tumors do, as a fact, very quickly degenerate, often showing vacuolation and alteration in the nuclei, before there is evidence of regressive changes in the surrounding spindle or round cells.

Tumors derived from the bone itself also frequently show myeloid giant cells, but in fewer numbers, whilst periosteal sarcomas almost invariably contain so-called giant cells, which have, however, nothing in common with the multinuclear giant cells under consideration in this article. They are large, spherical, or irregularly-shaped cells with one, or perhaps two or three, enormous nuclei, showing excessive nuclear hyperchromatism, which Hansemann (1897) ascribes to a process of karyorhexis. It is uncertain if this view be correct or not, but intense hyperchromatism is a not uncommon accompaniment of malignant tumors, whether sarcomas or carcinomas. Such periosteal sarcomas are usually exceedingly malignant, whereas the true myelosarcomas or those in which the giant cells resemble the myeloplaxes, can hardly be considered as exhibiting malignancy at all, being of slow growth, and seldom recurring or forming metastases.

A specially benign type is that known as epulis, proceeding from the alveolar process of the jaw.

Sarcomas other than those arising in connection with bone may contain giant cells. Krückman (1895) describes two such cases: in one of which the giant cells were grouped around masses of blood-pigment and in the other around hyalin material. For these and certain

other reasons he concludes that the giant cells are of foreign-body origin, playing merely a secondary rôle in the formation of the tumor.

Carcinomas also occasionally contain giant cells, especially the epitheliomas of the skin and stratified mucous membranes. In these cases the giant cells are often found surrounding horny epithelial pearls in which active growth appears to have ceased, so that these may be considered in the light of inert foreign bodies. Giant cells may sometimes also be observed scattered in the granulation tissue which so often accompanies carcinomatous infiltration, and in such instances, according to Krückmann and Lubarsch, careful search will usually reveal fragments of dead epithelial cells, cholesterin crystals, etc., in close proximity to, or contained within, the cells, so that a foreign-body origin may be ascribed to the latter.

Manasse (1894) describes nine cases of granulation polyps of the ear, in almost all of which giant cells were found, and decides from the appearances noted that these were of foreign-body origin, and had nothing to do with the formation of the polyps as such.

Without quoting other authors who reach similar conclusions we may sum up that giant cells:

1. In myelosarcomas represent absorption of bone.
2. In other tumors represent foreign-body intrusion.
3. In all tumors are a secondary manifestation, and do not actively contribute to their growth.

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BLASTOMYCETIC DERMATITIS AND ITS RELATION TO YAWS—A CASE IN POINT.¹

BY ISADORE DWYER, PH.B. (Yale), M.D.,

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 of Tulane University; Visiting Dermatologist to Charity
 Hospital; Editor *New Orleans Medical and
 Surgical Journal*, etc., New Orleans, La.

AT the end of March, 1899, a patient came under observation in whom the diagnosis was for some time in doubt. In many particulars fulfilling the clinical characteristics of yaws, the case lacked some of the features which determine this disease.

My attention at this time was directed to the excellent reports of Dr. Gilchrist of Baltimore, and Drs. Hyde, Bevan and Hektoen of Chicago, on blastomycetic dermatitis. My case seemed to fall within the diagnostic lines of the last-named condition. With the purpose of confirming this opinion, I solicited the assistance of Dr. Gilchrist, who facilitated me in every way. He directed the preparation of culture experiments and kindly examined specimens sent, from which he confirmed the diagnosis made of blastomyces. In a letter under date of October 20, 1899, he says: "I have examined two of the specimens which you sent me. The case is undoubtedly one of *Blastomycetic dermatitis*. I found but very few blastomyces in the sections and they were enclosed in miliary abscesses as I described in my two cases (*Johns Hopkins Reports and Journal of Experimental Medicine*, Jan., 1898). The histological picture is just the same as in my cases, viz.,

¹ Read before the American Dermatological Association, Washington, May 3, 1900.

marked hypertrophy of the epidermis and upper part of the corium, a few giant cells and large number of mastcells."

With this basis of opinion, a series of culture experiments were started by Dr. P. E. Archinard, of New Orleans, and carried on for a number of months, the final result being an impure culture which was sent to Dr. Gilchrist and upon which he has promised a report, to further confirm the diagnosis of blastomycetic dermatitis, which therapeutic measures have as well maintained.

The long confusion existent, however, regarding the etiologic factor in the production of yaws; and the obscurity in the study of this disease usually so distinct in its clinical entity, together with its resemblance in some points to the cases of blastomycetic dermatitis hitherto reported and especially in the many points of resemblance in the case under my care, all argued a relation which seemed to justify the present paper.

In the article on yaws prepared by me for *Morrow's System*, little beyond a comprehensive resumé is given of the disease, but the preliminary collection of material for this article (in 1893) led me to the knowledge that the disease was quite widespread and that clinically it has received more than passing attention. Perhaps no one has given more study to the disease than Dr. H. A. A. Nicholls, of Jamaica, especially commissioned to investigate yaws in the West Indies. In an exhaustive publication,¹ appearing in 1894, he reviews the literature of the disease, analyses the etiology, pathology, symptomatology, etc., besides relating a series of independent investigations, in which he claims to have found a microorganism responsible for the disease. Incidentally he refers to the appearance of a growth a kind of mould, in a great many of his cultures, always presenting uniform physical characteristics.

My opportunities in practice have been almost wholly confined to work as a clinician, and any observations made are perforce colored by macroscopic characteristics. This apologetic statement is offered because I know that the arguments which may follow are open to the criticism and disproof of the laboratory, the crucible of scientific research. Each of us, however, is entitled to the expression of an observation, and I feel that my own doubt may be of service in opening the way to more definite opinion.

For nearly two months after my case first presented itself, the diagnosis of yaws seemed possible, and the points of similarity were

¹Report on Yaws, etc., to Secretary of State, by H. A. A. Nicholls, M. D. P. L. S. London, 1894.

close enough to make me believe the observation important, especially where the etiology of yaws was still in doubt

For this reason I wish to report my case and afterwards to draw points of comparison, as they struck me, between my case and the cases of yaws I have seen and those characteristics of this disease accepted by other observers.

Miss M. D., aged 55. English by birth. Came to New Orleans in 1850, and has lived here continuously. Small of stature, weighs about 95 pounds. Has always been in good health. Occupation, housekeeper.

In 1898, developed small growth on forehead, which was diagnosed epithelioma by Dr. S. M. Fortier of New Orleans. This was removed with Bougard's paste in November of 1898. The consequent ulcer healed rapidly.

In March, 1899, patient was referred to me by Dr. Fortier, on account of the presenting condition.

Patient gives antecedent history of malaise for a couple of months; swelling of feet in February (Dr. Fortier reports that examination of urine showed no abnormal condition); lost weight. There was no fever or other symptom than depression and lassitude.

Eruption began the last of February, 1899. The backs of both hands showed small scales, followed by a "granulating sore." A "pimple" on the face appeared about the same time, gradually becoming "more protruding." As the spot on the face grew larger it grew more "warty"; while the spots on the hands were inclined to become "raw." There was no pain at any time. The whole mass of each patch of eruption was soft to the touch, and when "squeezed," a sticky, yellowish fluid would exude, from many points, in "beads," smearing as it was wiped away. The fungoid appearance of the papillary or verrucose lesions was marked as a circular band, with central depression, more or less smooth, but altogether "lumpy." The ulcerating points of the eruption began about the middle of March.

At the time the patient came under observation, the following condition was noted:

March 31, 1899.—Each hand presented a mass of lesions, arranged in a dollar-sized circle, made up of small papillary elevations, raised about $\frac{1}{16}$ -inch, closely aggregated, but in clusters separated by patches of tense, smooth and shining skin, perforated here and there by a pin-head-sized pustule, some broken, some thin walled, more or less flaccid, filled with pale yellow contents. These discharged constantly and covered the patch with a sticky exudate, especially crusted over the fungoid areas.

The center of each patch was less elevated than the edges, almost crateriform, in fact, the wider part of the surrounding band being at the outer edges of the patches. At no point was this band less than $\frac{1}{4}$ -inch, in places much wider. The circinate appearance of the patches was remarked. The color of the patches was a dull red. As the lesions developed, hyperesthesia became more marked, especially on pressure.

The lesion on the cheek was somewhat different in its physical characteristics.

Here there was a mass of encrusted, elevated tissue, about the size of a hazel nut, yellowish, reddish where the papillary streaks occurred. This lesion protruded, as a spongy verrucose mass, easily bleeding and constantly discharging a sticky fluid, in consistency resembling that on the hands, viz., somewhat thicker than molasses or syrup.

The base of the lesion was firm, infiltrated and spreading in a circle around the mass of fully $\frac{1}{4}$ -inch diameter. There was no crateriform tendency, as on the hands.

The diagnosis was withheld because of the unusual character of the eruption. Syphilis was promptly excluded by the rapidity of growth, the annularity of the hand lesions, the rapid breaking down of the lesions and the character of the fungoid masses, more fungoid than papillary.

The lesion on the face was typical of yaws, as ordinarily described, particularly by Imray T. Fox ("Dis. of Skin," 1887, p. 97), who speaks of the yaws lesion as resembling "a piece of coarse cotton wick, a quarter of an inch, more or less, in diameter, dipped in a dirty yellow fluid and stuck on the skin in a dirty, scabby, brownish setting, projecting to a greater or less extent. It is true that there are sometimes red streaks on the yellow surface."

The lesions on the hands, again, in large degree answered the graphic description given by Firth (in "Allbut's System," Vol. II., p. 503): "As the papule increases the epidermis splits or cracks, exposing a raw papillary surface from which oozes a yellowish-white, sero-purulent fluid. The yaws are usually circular in form, and may be met with of all sizes on the same patient, varying from a pin's-head to that of a golf ball, or even larger, and in every stage of progress. Generally they are discrete; but sometimes one sees them in groups, or *arranged in a circle* enclosing healthy skin. This variety is sometimes spoken of as 'ringworm yaws'."

On the hands, however, there was so much less crusting, and because of the sodden, pustulating appearance present that I was unwilling to commit myself to the diagnosis.

There were, moreover, other conditions to consider: The patient lived under the best of hygienic conditions; of a social scale above that in which yaws is usually observed, particularly sporadically. There was no history of possible exposure, and besides New Orleans had altogether reported only a scant quarter dozen of cases of yaws. (Jones, Matas.)

The patient was put on tonics, iron chiefly, and was watched, at intervals of a few days. Locally a dressing of ichthyol in ointment was applied. The lesions gradually advanced, growing larger and involving more of the skin. Poultices were used to remove the crusts and dressings of peroxide of hydrogen (one to five) were applied. After three weeks, April 21, the patient called my attention to a lesion on the upper third of the left leg, on the external aspect, about three inches below the knee. This was a lesion of one inch in diameter, showing plainly that it had been a large, flaccid bulla, the break having occurred in about one-third of the circumference. The crust was removed, consisting of a light accumulation of flaking epidermis, and the base was found smooth and shining red, but covered with a slight secretion, pustular at the outer edge. A peroxide dressing was applied and the lesion disappeared in a week.

Then followed the attempt to identify the case with blastomycetic dermatitis. I wrote Dr. Hyde and Dr. Gilchrist, detailing the salient points of the case, asking for sections and other assistance in making a diagnosis. It was not until October that I received word from Dr. Gilchrist, who had been in Europe. Since then he has aided me in every way.

Under the belief that the case was very likely blastomycetic dermatitis, I continued local antiseptic treatment and internally gave the patient the protoiodide of mercury in doses of $\frac{1}{10}$ grain, and $\frac{1}{4}$ grain of extract of gentian, three times a day, increasing that dose from May to September, until she took $\frac{1}{5}$ grain of the protoiodide three times a day. The result was not satisfactory, as the photographs, taken August 27 or 28, 1899, will show. While the exudate was much reduced in quantity, the lesions continued to spread, until at the time photographs were taken, the hand patches were fully two inches and a half in diameter, and the lesion on the face had grown to twice the original dimensions. Besides the lesion on the face had broken down in the center, much more resembling the patches on the hands.

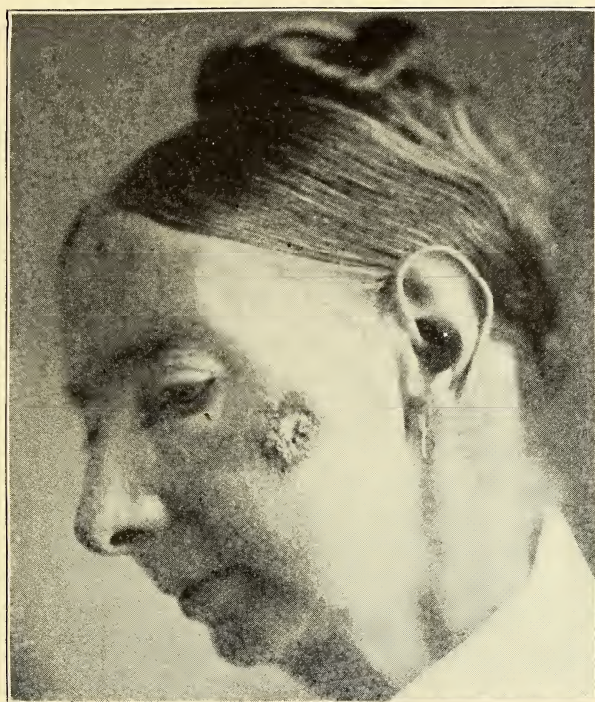
On September 15 the iodide treatment, as first suggested by Dr. Bevan, was begun, the patient beginning with five grains of sodium iodide, three times a day, increasing one grain at the dose each day, until she was taking twenty grains at the dose; locally the iodide of

lead ointment was kept applied; poultices of flaxseed meal being used whenever crusts accumulated.

The improvement was rapid, the lesions flattened, the exudate diminished, until at the end of December it was possible to apply mercurial plasters (S. & J.) to all of the lesions. This successfully reduced the granulations and stimulated normal epidermis.

By the end of January all lesions were healed, the redness and some scaling remaining. The plasters were continued until the middle of

FIG. 1.



February, when the patient was instructed to use only white vaselin to prevent the scaling. The dose of the iodide was reduced to ten grains and this was maintained until March 1. Then arseniate of iron was given in dosage of $\frac{1}{8}$ grain, three times a day, and has been continued to the present time.

On March 14 the hands were photographed; on March 29 the face was photographed, as the photograph of March 14 was too artistic to be useful in showing the process.

My last observation was made on April 22. (Fig. 2.).

The face shows a smooth, glossy area marked here and there by a fibrous tab, and with a large branching somewhat keloidal scar in the lower part of the area. Over all there is a fine linear network of scars, soft but marked. The hands are perfectly smooth, the right hand showing hardly any sign of the former eruption, excepting for the linear network of scars, more marked and quite visible on the left hand.

Incidental to the above history, I would like to remark the fact that during the summer, in July, a small granulomatous lesion developed

FIG. 2.



on the site of the old lesion on the forehead, considered epitheliomatous. Fearing that it was infection from the growth on the cheek, I promptly curetted and burned the base with the thermo cautery.

Dr. Gilchrist has promised me drawings of the sections he examined for me, and a report on the culture sent him. This, with Dr. Archinard's report, will be found below.

For the sake of the argument advanced that there is a possibility of identity between yaws and blastomycetic dermatitis, I have drawn up a resumé for comparison, showing the points of resemblance and

variation—a resemblance which only further investigation may prove or disprove.

Yaws (1).—*Previous History, Prodromes and Descriptive History.*—Rheumatic pains, especially in long bones and larger joints, particularly at night. Fever unimportant. Malaise. Tongue white and furred. Diarrhea, vomiting, anorexia. Headaches. Skin generally harsh.

Eruption.—Furfuraceous desquamation. Patches, small, oval, or irregular in outline. In rings surrounding healthy skin. Exfoliation partial, the flakes of horny epidermis being attached at one end and free at the other. Eruption scattered but may coalesce and give the skin the appearance of being “dusted in flour.” In other cases the patches are raised above the skin level, the exfoliation causing white masses, very noticeable on the negro. These conditions occur early, but may persist throughout. After some time papules form on the scaling patches. Examination shows these pushed up through the horny epidermis, which breaks over the summit and splits in lines radiating from the center, the necrosed segments curling away from the increasing papule. When the papules become about a millimeter in height and breadth, a yellow point may be seen at the summit; this yellow point seems to be caseous in consistency and not pus. In the typical disease the papule goes on developing until a tubercle is formed, resembling a raspberry, but really granulomatous. As the papule grows, the yellow mass widens so as to form a cap of incrustation on the tumor. The granulomata are seen usually as round, elevated growths from the size of a split pea to that of a dollar or larger and of different shades of yellow in color. By coalescence these may cover large surfaces. Nicholls (*loc. cit.*) has “met with cases in which the whole cheek, whole popliteal space, or dorsum of the foot has been occupied with masses of incrustated granulomata; and in these instances the surfaces of the crusts were irregular and sometimes fissured; the outline of the masses was also irregular, being made up of various curves.

“The outline of a typical growth is circular. Sometimes the granulomata are void or reniform in shape, and in rare instances they are annular, enclosing sound skin.

“The tumors near moist orifices are irregularly covered with dry or moist crusts in some places, while these are not present in other areas. In the latter case they are either coated with a yellowish gray viscid exudation or present the appearance of pale red fungus masses.

“The crusts are of a yellowish color, blotched by blood stains or marked with spots and lines due to dust. The crusts are firmly ad-

herent and some force is required to effect their detachment. If they are removed there will be seen underneath reddish fungoid tumors with bleeding points due to the removal of the crusts. The masses are elevated $\frac{1}{8}$ to $\frac{3}{4}$ inch above the skin, the height being proportionate to the breadth. If crusts are removed, a pale, yellowish gray viscid secretion exudes to form fresh crusts. Although richly supplied with blood vessels the granulomata appear to want nerve filaments, as they give rise to scarcely any pain, and they are not endowed with much sensibility.

"Ordinarily the granulomata attain their maximum growth within two weeks of the time of the evolution of the papules. In favorable cases they remain stationary for several weeks and then commence to disappear by absorption. The crusts become thinner, drier, and darker in color; the tumors shrink in size; and, as they shrink, the crusts are detached at the circumference—this detachment increasing as the granulomata gradually resolve.

"At last the wasted crusts fall off as dry scabs, and there is seen in place of the granulomata, slightly indurated, circumscribed portions of the skin, the color of which is lighter than natural. In rare instances this slight induration increases and spreads laterally, producing keloid."

In 100 cases Nicholls reports the following locations: 49 cases, face and head; 70 cases, lower extremities; 29 cases, upper extremities; 20 cases on the trunk; 20 cases on the perineum; 16 cases on the genitals.

Pathology: An analysis of the work of a large number of those who have examined sections of the lesions of yaws shows that the lesion is distinctly granulomatous.

Hirsch¹ concludes that the lesion starts from the papillary layer; Charlouis² believes the hair follicles, sebaceous and sweat-glands, as well as the muscles of the skin are involved in the process; Pontoppidan³, examining a section hardened in alcohol, found that the crust consisted of conglomerate dried up epidermis and pus corpuscles, beneath which were granulation-cells, the papillary layer being flattened, the rete wasted and occupied by round cells, while the corium was free from adventitious elements.

Nicholls again emphasizes the points (p. 304, *loc. cit.*) that "the minute anatomy of the disease had never been thoroughly investigated, and that the facts were insufficient to lead to any true estimate of the pathologic nature of yaws."

¹ Hirsch, "Handb. Geog. and Historical Pathology, *New Syden. Soc. Trans.*"

2 Vols., Lond., 1885.

² Charlouis, *Vierteljahrsschr. für Dermatologie und Syphilis*, VIII., 1881.

³ Pontoppidan, *Ibid.*, IX., 1882.

An analysis of Nicholls' work shows that in the aggregate his sections demonstrated the papule, an early lesion of yaws, to consist of thickened epidermis, protoplasmic (granulation?) cells, enlarged papillæ, granulation tissue and involvement of the follicles.

The granulomata showed additionally the presence of micrococci, pus cells, granulation tissue with enormous enlargement of papillæ.

Nicholls details experimental work done in the laboratory and with animals and calls attention to the fact that cultures were obtained on different media, these consisting of a "white mucoid growth," in rounded or oval patches, showing micrococci and diplococci in cover glass specimens. At times salmon colored growths were observed.

The cases of blastomycetic dermatitis hitherto reported have been comprehensively analyzed in the article of Drs. Hyde, Bevan and Hektoen, and in the work of Dr. Gilchrist, so that it is without my purpose to do this here—besides acknowledging again that the object of my paper is chiefly to report an observation and to direct attention to a clinical resemblance which offers field for experimental work.

With the acknowledgment that yaws is not yet a determinate pathogenic entity; that its study is still an open one; that opinions are divided as to its etiology; that laboratory work has been meager in fixing its characteristics, and that its lesions are similar to those of the disease under consideration—all will excuse the detail of my paper, outside the actual report of my case.

APPENDIX A.

Report from Dr. T. Caspar Gilchrist (under date of April 22, 1900):

"MY DEAR DOCTOR: I enclose the report of the tissue which you sent me. I received the photographs, for which I thank you, also a slide and a culture. There has not been time as yet to obtain any results from experiment on animals, but I shall proceed with these. It is a pity the culture is an impure one, but I will separate the fungus from the bacilli and cocci and see whether the fungus is pathogenic in animals. The case is an extremely interesting one, and I am glad I shall be of some help to you in the investigation to follow."

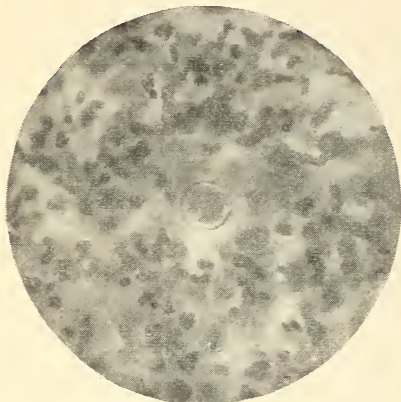
APPENDIX B.

Report on Excised Portion of Skin sent by Dr. Dyer:

"Microscopic sections from the excised portions which you sent me presented features almost indistinguishable from the sections from

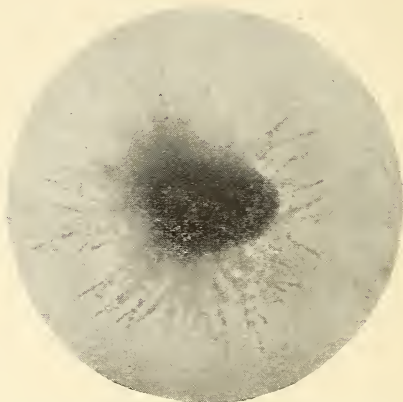
the case reported by Stokes and myself and practically similar to the specimens from my first case. The drawing of a microscopic section which accompanied the report of the case of Gilchrist and Stoke (Plate

FIG. 3.



Single Blastomyces in Skin.

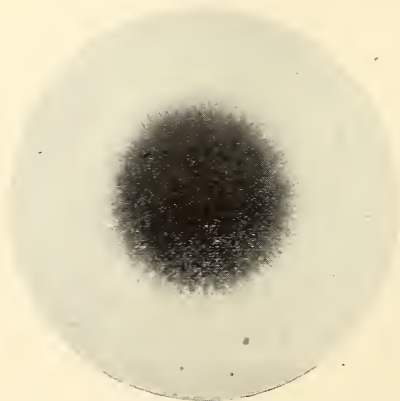
FIG. 4.



Culture on plate (agar). Low power.

II) would also practically represent some of the sections from your case. The chief features to be observed are (1) the benign hypertrophy of the epidermis, (2) the miliary abscesses scattered through-

FIG. 5.



Culture on plate (agar) showing buds and encykelium.

out the epidermis and corium, (3) the large number of plasma cells massed in the corium, (4) the presence in the corium sometimes of tubercle-like nodules consisting of crusted giant cells surrounded by

epithelioid cells and plasma cells, (5) the presence of blastomycetes in various stages of development in the miliary abscesses and scattered throughout the corium.

"In your case the blastomycetes were not at all numerous, but this is not uncommon, as in some of my own sections from Case II. the organisms were present only in small numbers. The blastomycetes in your case were about the same size as in mine (Case II.) and also presented the same characters, *i. e.*, in being doubly contoured and in the protoplasm consisting of fine and coarse granules. The miliary abscesses contained much nuclear detritus as well as polymorphonuclear leucocytes.

"Sections from another excised portion of tissue from your case were cut obliquely so that the pictures presented would not be like the drawing.

"Your case is then undoubtedly one of *Blastomycetic Dermatitis*. With reference to the culture you sent me I examined a fresh preparation in water and found vacuolated, refractive round and oval bodies and also branched and jointed mycelium which frequently contained spores. The whole picture reminded me strongly of the appearance of the pure culture we obtained from the case of Gilchrist and Stokes; the growth on the media, however, was not at all like our pure culture. A stained smear from your culture showed that it was an impure one, as there were large numbers of cocci and bacilli present. The bacilli were very like the acne bacillus.

(Signed)

"T. CASPAR GILCHRIST."

APPENDIX C.

Dr. Archinard's Report:

"DEAR DOCTOR: After experimenting, for some months, with inoculations from cheek, hands, etc., of Miss ——— in various media, as recommended, I have been able to obtain the accompanying culture, which though not pure, I however send you. This fungus grows in all known media, but best on acid media. The culture I send you is on ordinary agar-agar acidulated with about 1 per cent. acetic acid. I send you also a stained preparation from same culture.

"With best regards, I am very truly yours,

(Signed)

"P. E. ARCHINARD."

THREE CASES OF BLASTOMYCETIC INFECTION OF THE SKIN: ONE CASE LIMITED TO A "TUMOR" OF THE LOWER LIP.¹

BY FRANK HUGH MONTGOMERY, M.D.,

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WITH PATHOLOGICAL REPORT IN THE FIRST TWO CASES.

BY HOWARD TAYLOR RICKETTS, A.B., M.D.,

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CASE I.—J. H. C. presented himself August 18th, 1899, with a distinct tumor-like swelling of the lower lip. (Fig. 1.) He was forty-five years old, unmarried, occupied in a grain elevator in measuring and weighing grain. His father died at sixty-five, of heart failure; his mother at thirty-two, in childbirth. He has no living brothers. One brother died in infancy. He has three sisters living, in good health; no sisters dead. An uncle on his father's side is reported to have died of "rose cancer" at the age of sixty-three, the cancer having existed for less than two years. The patient is apparently in good health, no evidences of other disease being obtainable. He says he has never had any serious illness, and denies having had venereal disease in any form.

For a year he had been troubled more or less with chapping of the entire border of the lower lip. This condition was better at times and worse at others, and frequently disappeared entirely for weeks at a time. A month previous to my first examination of his case, he stated that his lip had been a little worse than usual, and that a crust had formed in one place. When this was pulled off, he noticed a small pimple, which refused to heal and which had rapidly developed in the preceding four weeks to its present dimensions. Subjective sensations were limited to a slight burning or feeling of irritation.

Examination showed an irregularly rounded tumor of the lip, situated a little to the left of the median line, averaging about three-fourths of an inch in diameter. The tumor was elevated about two-fifths of an inch, and was confined to the vermilion border and inner surface of the

¹ Read before the American Dermatological Association, May 3, 1900.

lip. The surface was of a light red or pinkish color, coarsely and irregularly granular, a few of the papillary projections here and there being separated by superficial fissures, from which there was slight hemorrhage. There was no ulceration, and there had been none. Aside from the hemorrhage, there was only a slightly watery or serous discharge. The base of the tumor was soft, but at the line of juncture with the skin the tumor was slightly contracted and showed a sharply outlined, thin, indurated band or collar, which extended in places onto the surface of the growth. Surrounding this collar, there was an ill-defined zone, from one-eighth to a quarter of an inch in width, of dull purplish-red congestion. No adenopathy could be detected.

FIG. 1.



While to the eye the tumor simulated closely an ordinary epithelioma of the lip, the absence of an indurated base, the rapidity of growth, and the fact that the tumor seemed to project wholly above the skin and to extend but slightly down into it excluded this diagnosis. Nor did the tumor present the classical features of a gumma. The clinical appearances, on careful examination, were different from anything I had ever seen, and noting the man's occupation and the fact that he was constantly exposed to the dust of grain, I was led to suspect the presence of a vegetable fungus of some sort. Dr. Hyde, who saw the man

with me a month later, declared the case to be a unique one in his experience. On his second visit, the man stated that the corn crop of the previous year, in his locality, had been unusually subject to a form of "dry rot," producing a fine, brown, very light powder between the husk or kernel and the cob. He had handled some of this grain, and said that many cattle and some horses had died after eating corn so diseased that had been left in the fields. He further stated that he was in the habit of chewing and biting grain.

He was put on the iodide of potassium in full doses, with a boric-acid dressing locally, including boric-acid fomentation for half an hour twice a day. Under this treatment the tumor became slightly flatter, but it continued to extend peripherally, so that in two months from the time he was first seen it had nearly doubled in size. During the two following months, the patient being kept most of the time under the influence of the iodide, in amounts ranging from 8 to 15 grams a day, the tumor diminished slightly in size and appeared less vascular. On the left border there was a small area, a quarter of an inch in diameter, which was smooth and depressed below the rest of the surface, and had the clinical appearance of scar tissue. The improvement on the whole was so slight that an operation was decided upon, and November 4th the tumor was removed by Dr. Bevan. No plastic operation was necessary. The wound healed kindly, and there has been no recurrence of the disorder.

Dr. Ricketts' pathological and bacteriological report is as follows:

CULTURES.—Media were inoculated from teased tissue. On all tubes colonies of a budding fungus developed. There was some staphylococcus and streptococcus contamination. The fungus was studied on various culture media.

Ox-blood Serum and Agar Slants. A rapidly developing, elevated, moist, white growth, with a relatively smooth, glistening surface. There are many pin-point elevations and depressions. On agar fine rays are seen to penetrate the medium. Microscopically there are spherical budding forms and fragments of mycelium. (Fig. 2.)

It does not grow anaerobically.

Agar-plate. Small, white, glistening colonies within twenty-four hours, which under the low power appear granular, because of the closely packed, minute, globular forms.

Gelatin Stab. Ready growth, with rays penetrating the medium transversely. No liquefaction.

Potato. A coarsely granular, elevated, moist, grayish-white growth. Many large vacuolated and granular degeneration (?) forms.

Bouillon. In glucose and plain bouillon a white, fluffy cloud forms

at the bottom. No surface growth. Microscopic examination shows mycelial and spherical forms. (See "hanging-drop culture.")

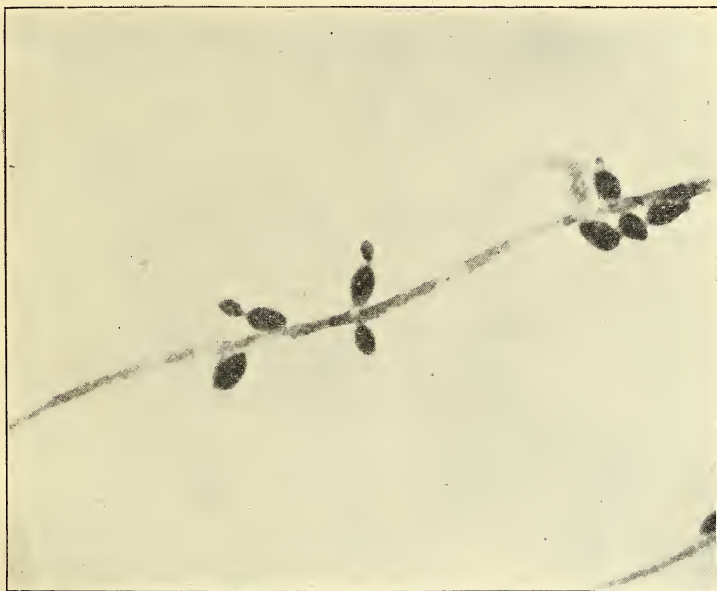
Litmus Milk. Liberal growth. No change in reaction. The milk is not coagulated.

Fermentation Tests. Glucose solutions ferment; lactose do not.

Potassium Iodide Cultures. Liberal growth by budding. No mycelium.

Hanging-drop Cultures. (Fig. 3.) Growth occurs with or without

FIG. 2.



Smear from culture (x 1200).

mycelium. If without, it consists of ascus-like cells, which multiply by budding. The mycelium is branching, and from the segments small spherical forms arise by a budding process. Both the spherical cells and the mycelial segments have a translucent, doubly-contoured capsule, a relatively narrow clear zone internal to this, and a central granular protoplasm, which is often vacuolated. I have not seen nuclei. There are many examples of incomplete segmentation of threads. Occasionally a chain of spherical forms is seen. Budding occurs after the manner described by Gilchrist and Hektoen. When buds separate they leave a small projection at the point of attachment to the mother cell. The vig-

orous adult cell is 6 to 8 microns in diameter. In old cultures they become slightly larger, shrivelled and much vacuolated.

After a few months mycelium refused to form. The process was re-induced by inoculations into mice successively.

A minute coccus-like form (Hektoen) is seen sometimes. (This failed to appear in later cultures.)

Spore-formation has not been demonstrated.

HISTOPATHOLOGY.—Blood and granular material cover the surface.

Horny layer: Lost in places. When present, is composed largely

FIG. 3.



Hanging drop (x 1200).

of flat nucleated cells, between which are infiltrating leucocytes and occasionally red blood-cells.

Hyalin layer: Not discernible.

Granular layer: Present irregularly.

Prickle cell layer: Enormous hyperplasia, with grotesque hyperplastic pegs penetrating the swollen cutis. No isolated foci or "whorls" of epithelium. Individual cells are large, vesiculated, and the prickles prominent. Nuclei swollen. Mitoses common in the deeper portions. Multinuclear epithelial cells, and examples of cell inclusion as cited by Gilchrist are seen occasionally. There is widespread infiltration with

polymorphonuclear and mononuclear leucocytes. Rarely eosinophiles, plasma- and mast-cells are found. In certain places the leucocytes (polymorphonuclear especially) are massed to form miliary (or sub-miliary) intra-epithelial abscesses in the minute size of which this case is unique. Besides leucocytes, they contain epithelial cells and granular material, but no blastomycetes. The epithelial cells immediately surrounding are flattened.

Cutis: It is often difficult to separate the cutis and the rete, because of the dense infiltration of each. Plasma-cells are in dense crowds, and seek the periphery of the process and those central portions where the reaction is less intense. Polymorphonuclears and lymphocytes are likewise numerous, being usually associated, the former especially, avoiding plasma-cells. Distinct abscess-formation does not occur in the cutis—leucocytes not occurring in foci to the exclusion of healthy fibrous and vascular tissue.

Eosinophiles are insignificant in number.

Plasma-cells seem intimately associated with the formation of a limiting protective zone of fibrous tissue. In them also occurs in conspicuous quantities a degeneration into hyalin spherules of varying sizes.

Mast-cells swarm the field in peripheral areas and in the neighborhood of hair follicles and sebaceous glands.

Giant-cells of the tuberculous type are numerous in the superficial cutis.

Congestion of blood vessels is extreme.

A blastomyces has not been recognized in the cutis (nor epithelium), in spite of laborious searching and the use of various staining methods.

Tubercle bacilli could not be found.

ANIMAL EXPERIMENTS.—Guinea-pig (A). Intra-peritoneal inoculation with tissue. Death two months later from obscure cause. Post-mortem findings and cultures negative.

Guinea-pig (B). Subcutaneous implantation of fresh tissue. Suppuration resulted, the fungus being found in the pus. Cultures yielded the fungus and pus cocci. Tissue also was rubbed into a scarification wound, but healing occurred promptly.

Guinea-pig (C). Subcutaneous injection of one c.c. of a ten-day-old bouillon culture. Fever and induration developed, but the point did not suppurate. Death two months later. No post-mortem or cultural findings.

Guinea-pig (D). Subcutaneous injection of twenty minims of six-day-old glucose bouillon culture. Fever and suppuration in two days.

The pus contained mycelial fragments and the spherical budding form. Fungus obtained in cultures.

Later three subcutaneous inoculations were made into this animal simultaneously, and the lesions resected at different stages. The following points are noteworthy:

(1). Before the induration has broken down into pus, the fungus (spherical form) may be recognized, but with great difficulty. (2). In the pus which results, both mycelial fragments and the spherical budding cell are present in overwhelming numbers. (3). In the abscess wall the organism could not be identified.

Rabbit (A). Subcutaneous inoculation of fresh tissue. Death after four days from staphylococcus septicemia.

Rabbit (B). Intravenous inoculation (one c.c. of ten-day-old bouillon culture). Temperature of 105.5° F. resulted. Localized induration, pus formation, spontaneous discharge after twelve days. Degenerate forms of fungus in pus. Cultures sterile.

Mouse (A). ¹One-half c.c. of three-day-old glucose bouillon culture inoculated subcutaneously. Died in thirty hours. Cultures of fungus obtained from kidneys.

Mouse (B). Bouillon suspension (twenty minims) subcutaneously. Recovery. Later ten minims of six-day-old bouillon culture injected. Death on second day. Fungus recovered from blood and kidney.

Mouse (C). Scarification inoculation. Death in two days. Post-mortem and microscopic findings negative.

Mouse (D). Twelve minims of ten-day-old glucose bouillon culture, subcutaneously. Death on second day. Organism recovered in pure culture from kidney, blood and spleen.

TISSUE CHANGES IN MICE.—Kidneys: Granular degeneration of the epithelium; small masses of the fungus in isolated areas, composed very largely of mycelial threads. Choosing the smallest colonies, it is seen that they originate in the lumina of tubules, and as they increase in size involve the epithelium (producing necrosis), and occasionally the interstitial tissue. A trifling amount of inflammatory reaction.

Heart: Circumscribed areas of infiltration, in which budding spherical forms are numerous, but identified with difficulty. No mycelium.

Lungs: Only extreme congestion.

Liver and spleen: Normal.

ETIOLOGICAL VALUE OF THE ORGANISM.—Since the organism has not been demonstrated in the human tissue the question necessarily arises—did the fungus isolated from the tissue cause the disease?

¹ Ordinary gray mice were used.

The reasons for an affirmative answer are:

- (1). The clinical history suggests an unusual etiology.
- (2). So far as known this organism has never been reported as a contamination of cultures, nor has it ever been noted in other cultures in this laboratory.
- (3). The histopathology places the process positively among a group of diseases proved to be caused by fungi similar to the one under consideration.
- (4). A portion of the tumor, inoculated into a guinea-pig, produced an abscess from which the fungus was cultivated.
- (5). The inability to find the organism in sections does not militate positively against the etiological position of the fungus, as in size, morphology and staining properties it closely resembles lymphocytes and connective tissue cells. Moreover, as mentioned elsewhere in this issue it is not improbable that blastomycetes form spores, and this organism may exist in solid tissue largely in such form, resembling and staining like nuclear detritus.

In size and morphology, and in the failure to recognize it in tissues, this organism corresponds quite closely with the sporothrix of Schenck's and Hektoen's cases. It, however, is somewhat larger than Schenck's sporothrix, and its method of growth is that of the blastomyces.

CASE II.—T. R., aged thirty-eight, married, by occupation a carpenter, first appeared at the dermatological clinic of Rush Medical College, February 4th, 1898. His father is living, in good health, at the age of seventy-six. His mother is living, also in good health, at the age of fifty-six. Two brothers and two sisters are living, all in excellent health; no brothers or sisters dead. The patient is a large, well-proportioned, unusually vigorous looking man, who states that he has never had any severe illness, except an occasional attack of rheumatism between his fourteenth and thirty-second years. He had one acute attack at twenty-two, which lasted three months. At the age of fourteen, he fell twenty-seven feet from a building and broke his right hip. During the three following years he had two other falls, each time injuring the same hip. The last time the bone was not set right, and he had to have it broken and re-set. At present the hip is slightly stiff, but it does not interfere with his walking or running. The right leg is about an inch shorter than the left. His general health is excellent. Careful questioning and examination fail to discover any evidence of past or present syphilis.

On June 15th, 1894, while tearing down an old hotel kitchen, he injured the back of his hand. The place became covered with a crust, on the removal of which, several days later, he saw an elevated, angry-

looking spot. This again became covered with a crust, and gradually increased in size. In the course of a few weeks the lesion had assumed a warty appearance, in places covered with crusts, which were easily removed. The condition was not very painful, although at times it was sensitive to the touch. Although subjected to more or less constant treatment, which varied from mild ointments to caustic applications, the disease gradually extended over the major portion of the dorsum of the hand. About a year after the first appearance of the lesion, he took a course of mud baths and internal treatment at Attica, Ind., at the same time applying local remedies. Three weeks after this course of treatment, the crust fell off and the skin entirely healed, leaving a firm, smooth, reddened scar. Before the hand was quite well, a barber cut a wart from his neck, just under the chin. In a few days there appeared at this point a little elevation, covered by a crust. The disease spread and behaved in much the same manner as it had on the back of the hand, extending up over the left jaw and the left side of the face. As the periphery advanced, the central portions had healed in places, leaving for the most part a firm, thick, attached, reddened scar. In way of treatment he had used a large variety of salves, plasters, caustics, and pastes, including a number of advertised cancer pastes. He had had no cutting or scraping operations.

The clinical picture was largely that of a verrucous tuberculosis, though in places it suggested more a papillary epithelioma. The border was elevated from a sixteenth to a quarter of an inch, and was sharply defined, except for a narrow zone of bluish-red congestion, which for the greater part was inconspicuous. The growth for the most part was verrucous, situated on a very slightly infiltrated base, though in places the latter was quite firmly indurated. Here and there the base was quite soft, and pus could be pressed out between the projecting papillæ.

The pus was examined under the microscope and a number of culture media were inoculated. Tissue was removed from one border. The major portion of it was hardened in alcohol, but a small piece was teased in distilled water and used for the purpose of inoculating more media. Bits of this tissue were introduced into the subcutaneous tissue of two guinea-pigs and a rabbit. On the culture media no growths were obtained except those with pus organisms, while the results of the animal inoculations were absolutely negative. Microscopical examinations of the sections showed an unusual appearance, which will be described later. The diagnosis made at this time was that of a probable cutaneous tuberculosis, though the possibility of blastomycetic infection was considered. Diligent examination of the stained specimens failed to show blastomycetes.

At the meeting of the American Dermatological Association in 1898, I mentioned this case during the discussion of Dr. Shepherd's paper on "A Strange Case of Granuloma of the Face and Extremities," the photograph of his case and his description bearing a striking resemblance to the clinical features presented by this case a few weeks previously.

The man did not present himself again until August 26th, 1899, eighteen months after his first visit. He said that in the meantime he had been treated by various dermatologists in New York and other

FIG. 4.



Eastern cities, but did not remember definitely the names of any of these men. He had had applications of all sorts, but no cutting or scraping operation. The disease had extended over the left cheek to the nose, had surrounded the left orbit and involved both upper and lower eyelids as shown in the accompanying photograph (Fig. 4); the cicatricial tissue producing eversion of the lower lid. He states that some seven or eight months previously both lids of this eye became badly inflamed in a single night, and that two weeks later they were involved in a process similar to that seen on other portions of the skin. The older portions of the diseased area present a smooth, firm, reddened, adherent cicatrix.

The borders are elevated and covered with coarse papilliform projections, which for the most part are dry and firm. In places there are raised, smoother areas; in others, the base beneath the papillæ is soft and pus can be expressed. Various culture media were inoculated with the pus and with tissue taken from an advancing border. No cultures of blastomyces were obtained though the organisms were demonstrated later in typical forms in pus and tissue which had been subjected to the action of a weak solution of potassium hydrate.

The man again disappeared from view for four months, at the end of which time he applied for admission to the Illinois Eye and Ear Infirmary. To Dr. Dodd of that institution, who came to consult me regarding the man, I am indebted for further opportunity to study the case, and for carrying out treatment with the iodide of potassium, under the influence of which, in large doses, the progress of the disease has been arrested, and the verrucous growth is being replaced by the characteristic smooth red scar. The histological findings in the case are given by Dr. Ricketts as follows:

EXAMINATION OF FRESH TISSUE.—Verrucous tissue and pus at various times were mounted in KOH solutions and examined with the oil immersion objective. Besides tissue cells and elastic fibers, an organism possessing a clear, refractive, doubly-contoured capsule, and a central granular protoplasm, was found constantly. Inconstantly, a clear space separated the capsule from the protoplasm. Diameter about 12 microns. Proliferation by budding. Moreover, a small form was found in preparations of the teased tissue, but not in the pus. They were capsulated and formed in pairs and chains. Diameter about 3.75 microns.

CULTURES.—On August 26th, 1899, and February 8th, 1900, ordinary culture media were inoculated with pus from the miliary abscesses and with teased tissue. The tubes were kept for two months, but no blastomycetes developed. Pus cocci contaminated all the tubes.

HISTOPATHOLOGY.—Stratum corneum: (Fig. 5.) Granular débris, bacteria, blood and leucocytes cover the surface, being mixed with loosened horny lamellæ and plugs. The portions not detached have nucleated cells largely. It is moderately thickened.

Stratum lucidum: Absent in diseased skin.

Stratum granulosum: Thickened, three to six cells deep.

Stratum mucosum: Extensive proliferation, with fine or coarse finger-like projections and masses dipping deeply into the cutis. There are no isolated masses or "whorls" buried in the connective tissue. A columnar basal layer is maintained, often suffering distortions, however. The nuclei stain well, and prickles are distinct. There is marked

edema. Infiltration leucocytes are scattered diffusely and frequently concentrated into intra-epithelial abscesses. The rete cells surrounding abscesses are flattened.

Cutis: Widely dilated blood and lymph channels. Minute hemorrhages. Edema. Dense infiltration, with leucocytes and plasma-cells. Great proliferation of fixed tissue cells. Polymorphonuclear leucocytes form subcutaneous abscesses, and are, moreover, diffusely distributed

FIG. 5.



in company with lymphocytes. Plasma-cells are found chiefly in the subacute portions of the lesion. There are a few eosinophiles and many mast-cells. Giant-cells of the tuberculous type are numerous, both within and without abscesses. Numerous blastomycetes in abscesses, and free where reaction is less intense.

Miliary abscess: The intra-epithelial contain, besides the polymor-

phonuclear leucocytes, loosened epithelial cells, fibrin, nuclear and protoplasmic detritus in relatively small amounts, and the organism. The subcutaneous abscesses include small numbers of connective tissue cells, fragments of elastic tissue, and the organism. Occasionally an abscess communicates with the surface, in which case there are abundant pus cocci.

The organism is hardened tissue: Possesses the morphological features seen in mounts of fresh tissue. Budding is common, and groups of three or four are seen frequently. Nuclei have not been observed, and vacuoles are seen rarely. In the periphery of the protoplasm it is common to find from eight to twenty-four spherical granules of uniform size, which stain with hematoxylin and methylene blue. The whole cell protoplasm often stains beautifully when the polychrome methylene blue is used. The organism is not found within giant or other tissue cells.

Tubercle bacilli cannot be found.

ANIMAL EXPERIMENTS.—(1) A guinea-pig was inoculated intraperitoneally with tissue, and a scarified wound of the abdomen was rubbed with tissue teased in normal salt solution. The animal died in two days from staphylococcus septicemia.

(2) Subcutaneous inoculation of rabbit with tissue. An inflammatory nodule developed, which healed without pus formation. Cultures from this were negative.

(3) A white mouse inoculated subcutaneously with teased tissue died in five days of staphylococcus septicemia.

CASE III.¹—C. W. T., aged thirty-three, carpenter by occupation, came under my service in Cook County Hospital in August, 1894. His father died at the age of sixty-four, of heart disease. His mother died at thirty-six, of consumption. He had two brothers living and in good health; one brother died at thirty-six of heart disease. This brother had always been delicate. Three sisters were living, all in good health; no sisters dead. He had been married ten years; had had six children, four of whom were living and in excellent health. The third pregnancy resulted in a still-born child. One child died at the age of fourteen months, of pneumonia. The patient was a large, well-proportioned man, weighing one hundred and eighty pounds, and had always been unusually strong and vigorous. No evidence of other disease than that of the skin could be found. No history or evidence of syphilis or of tu-

¹ Photographs of this case have been shown, before the American Dermatological Association and at the Third International Congress of Dermatology, as "An Unusual Form of Cutaneous Tuberculosis."

berculosis could be obtained. Seven years previous to his coming to the hospital, he noticed a pimple on the right shoulder, which became covered with a crust. Whenever this crust was picked or accidentally rubbed off, it would soon re-form. The lesion increased slowly to the size of a silver dollar, when it remained stationary for three years; then it began gradually to increase in size. During the two years previous to this examination, the involved area had doubled in size until it attained the dimensions of the largest (interscapular) area shown in the accompanying photograph. (Fig. 6.)

FIG. 6.



The patch was situated between the capsule, extending up slightly onto the neck. The whole area was elevated about a quarter of an inch above the surface. The border was sharply defined, quite firm, in places smooth and rounded, but for the most part verrucous in character and abrupt. The greater part of the surface was covered with dry, verruciform projections; but about one-third of the area was occupied by a dense, smooth, glistening, adherent scar. In places this cicatricial

tissue was irregularly corded. The base underlying the borders was for the most part firm and hard, though here and there were softer areas, from which pus could be expressed. The man's general health had been unaffected, the disorder causing him no pain, though at times it was sensitive to the rubbing of his clothing or other irritation. Attempts at cultures and animal inoculations both with pus and with fresh tissue gave no positive results beyond cultures of pus organisms. The large number of giant-cells found in the corium led to a diagnosis of probable cutaneous tuberculosis, with a possible epitheliomatous complication, as there was marked hyperplasia of the rete.

Previous to coming into the hospital, he had had what he called a "boil" under the left scapula. This discharged and healed, leaving only a pigmented spot. He would not consent to operative treatment, and remained in the hospital but two weeks.

Six weeks after leaving the hospital, he appeared with a very sensitive point on the ulna near the elbow. The whole joint was very much swollen and hot. He had a temperature of $99\frac{1}{2}^{\circ}$. These symptoms all disappeared within a few days.

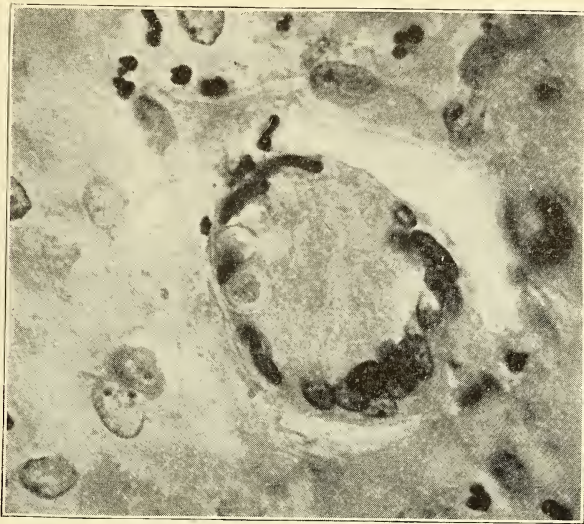
Two weeks later he presented himself, looking pale and much depressed, stating that a week previous to this visit he had had what his family physician at first considered pneumonia. The disturbance had begun with a pronounced and severe chill, followed by high temperature and great depression. These symptoms had gradually disappeared at the end of four or five days, leaving the man, however, very much weakened. At the time of this visit he presented, just below the left scapula, two elevated, deeply red, edematous swellings. One of these was about an inch in diameter, the other about half this size. They were sharply circumscribed, projected in a semi-globular form from the surface, and suggested strongly the soft tumors occasionally seen in erythema nodosum. They could be compared to a gland in which suppuration and softening were complete, except that fluctuation was not so perfect and the hypodermic needle obtained nothing but blood. Both the patient and his physician stated that these areas had come on rapidly within three days. Within a week of their origin, the lesions had flattened out very markedly. A portion of the epidermis separated from the deeper layers, and looked much like the roof of a bleb from which fluid had escaped. Later this layer of epidermis fell off, leaving a deep red, excoriated surface. One of the lesions healed slowly, leaving only a pigmented area. The other gradually assumed the characteristics of the original patch.

During the next six months he had seven or eight attacks similar to the one just described—the chill, high temperature and profound de-

pression, followed by the appearance on the back or on the face of lesions similar to those just described. Twice I had the opportunity of watching the development and course of these lesions. During all these subsequent attacks the fresh lesions were covered, when they first appeared, with a protective dressing, to prevent, if possible, their infection from the shoulder area. A few of them disappeared, leaving only a deep pigmentation, but the majority rapidly assumed the verrucous appearance of the first area.

He was again in the Cook County Hospital, under the care of Dr. D. D. Bishop, from March 8th to April 19th, 1895. During this time the cutaneous disorder continued to progress, and the man gradually

FIG. 7.



Blastomycetes in Giant-Cell.

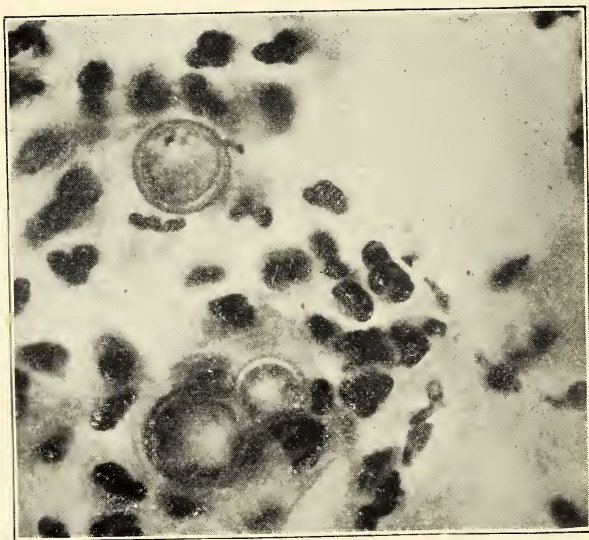
lost strength and became decidedly emaciated. He died soon after, of what his physicians called acute miliary tuberculosis, the post-mortem showing miliary tubercle in the lungs and in other internal organs. In these lesions tubercle bacilli were discovered, and guinea-pigs inoculated with tissue developed generalized tuberculosis.

During the eight months in which he was under observation, numerous attempts were made to obtain cultures, but nothing was ever found except pus organisms. A number of guinea-pigs were inoculated at different times with bits of tissue both from older and from recent lesions. The majority of animal inoculations were entirely negative, no

evidence of tuberculosis being obtained in any of them. Two guinea-pigs died of septic infection a few days after inoculation.

Tissue from the older lesions showed a markedly infiltrated cutis, with many giant-cells, some of which were unusually large. (Fig. 7.) In some places as many as forty giant-cells could be distinguished in a single field under the microscope. Hyperplasia of the rete was very pronounced, the process extending deep into the cutis, with irregular shape and branches. In these epitheliomatous processes were miliary abscesses of various sizes, some of them bounded by markedly flattened and slightly hornified epithelium. In other places hornified masses or whorls were apparent. At this time we did not consider blastomycetic

FIG. 8.



Blastomyces, Budding Form.

dermatitis and did not look for the organisms found in this disorder, though it is strange they should have escaped observation, as they are numerous in most of the sections that have been preserved. The organisms in their morphological features correspond closely with those described by Gilchrist and others. The organisms are found usually in pairs, both in giant-cells in the intra-epithelial abscesses and in the corium, but not within other cells. Although these bodies are present in large numbers, budding forms are difficult to demonstrate, partially because the sections have faded somewhat. Distinct budding forms are seen, however. (Fig. 8.)

Tissue was removed from a very recent lesion on the face, soon after it had assumed the verrucous character, and used for culture and inoculation experiments with negative results. A piece of this tissue was also hardened in alcohol. Something over two hundred sections were stained and examined for bacilli. In three of these sections tubercle bacilli were found. In one section there was but one, in another there were two, while in a third there were three fairly distinct bacilli. These were all found, however, in a small abscess communicating with the surface of the skin.

This case has additional interest in view of its combination with, or possible relation to, tuberculosis. The sections show unmistakable blastomycetes in typical development. The post-mortem examination demonstrated the fact that the man had a miliary tuberculosis. The finding of the small number of bacilli in the cutaneous lesion is not very significant, since they were found in a portion of an abscess connecting with the surface. The tissue in which these were found was taken about six months before his death, soon after he began to experience constitutional disturbance. The fact that numerous inoculations of guinea-pigs with tissue from both old and new lesions produced negative results would certainly indicate that the primary difficulty in the skin was the blastomycetic disease and not tuberculosis.

A REPORT OF TWO CASES OF BLASTOMYCOSIS OF THE
SKIN IN MAN, WITH A SURVEY OF THE LITERATURE
OF HUMAN BLASTOMYCOSIS.¹

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WITH PATHOLOGICAL REPORT OF THE TWO CASES.

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College, Chicago.

THE numbers affixed to the reports of blastomycetic infection of the skin in man which are herewith presented, correspond to the figures given in the table which follows, and in which it has been attempted to collate all the cases heretofore reported, with a view to the determination of the more important of the data thus furnished.

CASE 12.—Mr. F. S. S., æt. 33 years, by occupation a farmer, resident of Elburn, Illinois, applied for treatment December 15, 1899. He stated that he had been married eight years and had two children, his wife never miscarrying, the general health of himself and family having been excellent. He gave no history of prior venereal disease. He used no tobacco nor stimulants.

His family history was satisfactory, a father living at the fifty-sixth year of life; mother living, aged fifty-three; also, one brother at twenty-nine and one sister at thirty-one. The former had suffered from some rheumatic affection and disorder of the kidneys. There were no dead brothers and sisters. He weighed one hundred and fifty-five pounds, and gave no history of prior ailments. In August of 1899 what was described as a nasal polypus had been removed by a physician. For three years previous to the present date he had been engaged every autumn in handling a threshing machine. His general appearance was that of a man in sound health and with good habits.

The present cutaneous affection began about two years ago, when the upper portion of the left side of the face became affected after un-

¹ Read at the Fourth International Congress of Dermatology and Syphilography, Paris, August 3d 1900.

due exposure to cold. A "carbuncle" then formed, which was opened in July of 1898, but the resulting wound did not heal. This was subsequently scraped by a physician. Afterward the local affection steadily extended, and in March of 1899 the surface was again subjected to scraping by another physician. The improvement which resulted proved to be of temporary duration.

When examined, the region involved was recognized to be the left lower lid and the parts adjacent in both cheek and temple. (Fig. 1.) Here the integument was found to be the seat of a clearly-defined patch, extending in an irregular triangle from the middle of the left side of

FIG. 1.



the nose to a point on a level with the lower border of the left ala, beneath the external canthus, and thence upward to about the level of the outer border of the left brow. This patch was the seat of irregularly elevated nodules, with minor areas between, of little or no implication, some of the nodules having broken down to form superficial excoriations. Some were firm and unaltered by any involutive process. The general color of the patch was a reddish brown. The subjective sensations were slight. The patient desired relief chiefly on account of

the disfigurement, but also because of his uneasiness respecting the nature of the process. He stated that none of his physicians had been able to name his disease. A part of the skin of the affected region was excised for examination, and the patient soon afterward placed upon treatment with the potassic iodid in the manner employed by us in similar cases; that is, beginning with drop doses of a saturated solution and increasing the same to the limits of toleration. Improvement was prompt and highly gratifying to the patient. It is to be noted, however, that he is still under treatment, and though the patch has apparently diminished in size, has lost its projection, and is a much smoother and very much less disfiguring blemish, it is not yet completely healed.

Dr. Rickett's report of the bacteriological and pathological examination of the tissue is appended:

EXAMINATION OF FRESH MATERIAL.

Pus: Examined in thirty per cent. KOH solution. Besides disintegrating pus-cells, a spherical budding organism, having a doubly-contoured capsule and a central non-nucleated, granular, vacuolated protoplasm is found in numbers. Diameter about twelve microns.

The same organism is found in verrucous tissue teased and mounted in KOH solution.

CULTURES.

After two failures, the organism was cultivated on ordinary media, from the pus of miliary abscesses and from teased verrucous tissue.

Agar-agar Slants.—Glucose preparation is more favorable than the plain. Either one of two appearances may be present:

1. Brood-oven cultures: A whitish, coarsely granular, moist, elevated growth. The granules enlarge and assume irregularities, which suggest eventually a heap of tangled earthworms. Fine rays extend laterally and into the depth of the medium.

2. At room-temperature: The growth does not rise above the surface conspicuously, but infiltrates the medium heavily. From being slightly wrinkled, the surface gradually assumes the appearance of a piece of crumpled cloth. The growth is almost entirely mycelial, while the first has a preponderance of spherical forms.

Ox-blood Serum.—Heavy granular or vermicular surface-growth, developing more slowly than on agar.

Potato.—Heavy, coarsely granular, grayish-white growth, developing rapidly.

Stab-cultures, Agar and Gelatin.—Growth along puncture, and rays extending horizontally into the medium. Gelatin is not liquefied.

Anærobic Agar and Gelatin Cultures.—No growth.

Bouillon.—A white, granular surface and bottom growth. A scum forms on the surface. This breaks up and sinks as coherent flakes. Contains mycelium and spherical cells. At times light, fluffy tufts form around fragments of the growth.

Litmus Milk.—Pronounced acid reaction, induced slowly. No coagulation.

FIG. 2.



X 1200.

Hanging-drop Culture.—Isolated clumps of a tortuous, branching, segmented mycelium. Spherical forms develop out of segments of threads, or as buds from them in the form of conidia. (Fig. 2.) Certain segments become spherical, from fifteen to twenty-five microns in diameter, develop "spores," and discharge them. Around this spore-bearing cell develop numerous cells, which soon reach adult proportions and characteristics. Mycelium and spherical forms alike have a doubly-contoured capsule and a central granular protoplasm. No nucleus seen. Vacuoles conspicuous.

Glucose-Agar Plate.—Dense growth of globular organisms in two days. At the border are crooked mycelial fragments.

Fermentation Tests.—Glucose solutions are fermented; lactose are not.

Potassium Iodid Cultures.—Vigorous growth in one per cent. and five per cent. bouillon solutions.

HISTOPATHOLOGY.

Horny layer: May be absent or in great excess, often forming horny plugs. Composed largely of flattened nucleated cells, some of which contain kerato-hyalin granules. Interspersed are leucocytes, bacteria, and débris.

Stratum lucidum: Not observable.

Granular layer: Present except where desquamation is extreme. Where the rete is dense, the granular layer acquires proportionate thickness.

Rete: Enormous hyperplasia and down-dipping, interstitial and parenchymatous edema. Liberal number of infiltrating leucocytes. No plasma- or mast-cells.

The intra-epithelial abscesses are of large type, and contain polymorphonuclear leucocytes; loosened, epithelial cells; giant-cells, granular material, and the organism. The surrounding epithelial cells are flattened.

Cutis: Massive infiltration with leucocytes and plasma cells. The antipathy between the polymorphonuclear and the latter is evident. Distinct abscesses are formed, containing, besides the leucocytes, fragments of fibrous and elastic tissue, proliferating connective-tissue cells, granular material, giant-cells, and the organism. Giant-cells occur also in the connective tissue apart from the abscesses. None is found containing the organism.

Marked hyperemia.

The organism averages twelve microns in diameter, produces buds, has a capsule, clear space, and a central granular protoplasm, occasionally vacuolated. It is found in intra-epithelial and subcutaneous abscesses, among connective-tissue structure, but not within cells.

Elastic tissue has disappeared largely from the areas of dense infiltration.

No tubercle-bacilli.

ANIMAL EXPERIMENTS.

Guinea-pig (A).—Intra-peritoneal inoculation of tissue. Death in two days from staphylococcus-septicemia.

Guinea-pig (B).—Intra-peritoneal inoculation of twenty minims of glucose-bouillon culture. No evident effect.

Guinea-pig (C).—A similar amount of bouillon-culture injected subcutaneously. Abscess in five days, rupturing spontaneously. The organism was found in pus mounted in KOH solution, and cultures yielded the fungus inoculated.

Guinea-pig (D).—Four c.c. of a ten-day-old glucose-bouillon culture, inoculated beneath the skin of the back. Fever and indisposition resulted, but recovery took place without abscess formations.

Mouse (A).—Twelve minims of a glucose-bouillon culture injected subcutaneously. Recovery apparently complete.

Mouse (B).—Subcutaneous inoculation. Death in two days. Cultures yielded pus cocci. The organism was not discovered in sections.

CASE 13.—Mr. F. M., a resident of Chicago, presented himself at the clinic December 23, 1899. He was forty-seven years of age, single, with no history of venereal diseases of any kind. He had been engaged in laying pipes for a gas-company. All his functions were properly performed, and he announced that his health in general was absolutely perfect. It was not the least among the evidences of this fact that he was able to do his work in the condition in which he presented himself.

His sole trouble was an affection of the right arm, from which he had suffered between twenty-five and twenty-six months, and for the relief of which he had been able to secure no aid.

His family history was good. His father died at ninety-eight; his mother at ninety-six. He was one of thirteen children, of whom five died in infancy and three after attaining adult years, all of causes unknown to him. Five were living and had never been ill. There was no history of tuberculosis in the family. His previous occupations had been those of watchman, saloon-keeper, general laborer, and butler. He had been engaged in his present occupation for six years in the City of Chicago.

His previous illnesses had been an attack of rubeola when an infant, smallpox at ten, typhoid fever at eighteen, generalized rheumatism at thirty-nine, and the consequences of an injury to the head at thirty-seven, followed by an attack of erysipelas of the scalp, lasting for two months. He did not suffer from cough or headache. Fourteen years previously he had received an injury in the left groin by traumatism, with a shovel. There had apparently resulted a hematoma, for the tumor which formed had been opened and blood thus given an exit.

His general appearance was that of a hardy day-laborer, with no superfluous fat on the body, with lean and strenuous muscles, and with

much capability of endurance. His face bore the scars of smallpox. There was a scar on the left parieto-occipital region from the injury to which reference has been made. The heart and lungs were normal. There was no general adenopathy.

FIG. 3.



His present disorder dated from November, 1897, when the skin of the right forearm, three inches below the elbow-joint, was scraped when in contact with a wooden truck. The resulting wound covered itself with a crust, which later fell and was succeeded by another and

yet another, no healing resulting. In a few months the patch was of the size of a small coin, and was moist and discharging. There was some pain, but no itching. In six months the patch had doubled in size; in a year it measured two or three inches in diameter; in eighteen months it had nearly reached its present proportions. (Fig. 3.)

The patch, when examined, was found to be in the form of a distinctly defined band, about six centimeters in greatest width, completely encircling the arm from in front backward and meeting posteriorly by a narrow line of contact between the two rounded borders of the fillet, as if the process had advanced from the anterior to the posterior surface. The affected area was of a dull, reddish hue, moist throughout, secreting a sero-purulent fluid, granulating, and the source of a disgusting fetor. Its surface was irregular, and there were islets of pinkish hue between the elevations and depressions of the florid granulations visible. Here and there thin patches of false membrane had formed.

The edges of the patch were sharply defined, and distinctly elevated above the general level on both margins, more precipitously toward the level of the sound skin. On the inner face of the surrounding ridge there was a gradual curving descent to the level of the ulcerated surface. The elbow-joint, in consequence of disuse, was the seat of a spurious ankylosis.

The patient was placed on the potassic iodid treatment, the dosage progressively increased to about one hundred minims of a saturated solution daily. By the third of the month, a very remarkable improvement had occurred and one which seemed to greatly rejoice the patient. The angry look of the sore largely disappeared, the surface became much dryer, there were fewer secreting patches, the fetor in large measure vanished, the general tumefaction of the arm subsided, there was more movement possible in the elbow-joint, and the edges of the patch decidedly flattened. The outer border and edge of the affected region assumed a decidedly verrucous aspect. A thin, new-formed epithelium covered a large part of the originally denuded area.

There was left, however, a distinctly reddened surface and several wholly uncovered raw areas, each as large as the section of a pullet's egg, and these exhibited a shallow, smooth, granulating, excoriated surface.

At the present date the arm of the patient is even better, and practically healed. There are a few shallow excavations visible over the surface; and the flattened but still somewhat elevated borders of the patch here and there exhibit evidences of a tendency to the reawakening of the process. The local treatment has been by boric-acid washings and moist dressings, followed later by applications of dry powder of the

same acid and pencillings of indolent ulcerations with the nitrate of silver in crayon.

Dr. Ricketts reports:

EXAMINATION OF FRESH MATERIAL.

Pus and teased verrucous tissue, examined in KOH solution. A capsulated, budding organism, with a vacuolated granular protoplasm, is found constantly in large numbers. Many forms are degenerating. They average from twelve to fourteen microns in diameter.

The iodid of potash, which was administered internally in large doses and produced marked subsidence of the disease, caused no clear changes in the morphology and structure of the fungus, although the organisms decreased in numbers.

CULTURES.

The organism never was obtained in cultures, although repeated attempts were made on ordinary media. Portions of the tissue and pus inoculated were always examined microscopically, and the fungus demonstrated invariably. No doubt the proper medium has not been selected.

HISTOPATHOLOGY.

A verrucous structure, with villiform processes of extreme length, characterizes the surface-contour. (Fig. 4.)

Horny layer: Excessive. Many large, loose masses and whorls, mixed with cocci, leucocytes, and a few red blood-cells.

Stratum lucidum: Absent.

Granular layer: Not much in evidence.

Rete: It follows the meanderings of the papillary tissue as a thick sheath. Marked edema. Cells are large, vesiculated, possess well-staining nuclei and conspicuous prickles. "Whorl"-formation common. Infiltrating leucocytes are less numerous than in the preceding cases. Eosinophile and red blood-cells occur frequently. Abscess of moderate size are numerous. They contain the usual varieties of cells and granules, besides occasional eosinophiles and red corpuscles and the organism.

Cutis: Penetrated promiscuously by deformed epithelial pegs, but there are no isolated epithelial cell-"nests." Excessive vascularity. An unusual number of eosinophiles are seen in the vessels and in the surrounding tissue, where they may occur in small groups. There are many small hemorrhages.

Infiltrating cells are exceedingly numerous, but less densely packed than in the preceding cases. The same cells are involved, but the proportions are new—a less number of polymorphonuclear and plasma-cells, and a greater number of lymphocytes and eosinophiles. Mast-cells are somewhat increased. Giant-cells of the tuberculous type are common in the abscesses and connective tissue, and often contain leucocytes.

The fixed tissue-cells have proliferated greatly.

FIG. 4.



The organism: Found in the abscesses and free in the inflamed cutis, often surrounded by only a small number of infiltrating cells. Occurs characteristically in clusters of from two to eight. The adults are from twelve to fourteen microns in diameter. They have a doubly-contoured capsule, a clear space, and a granular protoplasm, often vacuolated. Budding-forms numerous, often in chains of four or five. Spherules of uniform size, suggesting spores, are often found in the periphery of the protoplasm. There is a substance on the external surface of the capsule which may be a secretion or a deposit from the tissue-fluids.

Tubercle-bacilli could not be found in the tissue.

Three guinea-pigs inoculated with tissue yielded negative results.

During the period of six years ending with the midsummer of 1900, cases of blastomycotic invasion of the skin in man have been made the subject of investigation. In this time, about a score of clinicians, surgeons, dermatologists, and pathologists have recognized the lesions of the malady, have isolated and reproduced in cultures the special variety of the yeast-organism, which is believed to be chiefly responsible for the symptoms presented, and also have treated by medicinal and surgical measures the local manifestations of the infection. A brief survey of the literature embodying this research will prove suggestive in this connection. No reference is here made to the experimental and other studies of blastomycotic infection of the lower animals made by foreign observers, chiefly by Italian investigators.

With a single exception, the reporters of the cases of blastomycosis in man have been American authors, and the original contributors to the subject are seventeen in number. With the reports presented to the American Dermatological Association at its meeting in 1900, in connection with the Congress of American Physicians and Surgeons, and those since made, the total number of cases is brought up more than a score.

The cases believed to have been fully recognized and in which blastomycetes has been demonstrated are not all fully recorded. As a result, a comprehensive survey of the list must for the time be understood as a partial and imperfect presentation of data for generalization. At the same time, a number of cases have been recorded with sufficient fullness and detail to justify the acceptance of a few fairly conspicuous facts.

Of seventeen cases in which the sex was recorded, four were those of women, and two American women, a fact pointing to an unusually large percentage of male subjects of the disease, and explainable possibly by the far greater exposure of men to the accidents of this special infection. It may be worthy of note in this connection that each of the four women attacked had either thigh or leg lesions of the disease. The average age of fifteen patients whose ages are recorded was forty-three years, the youngest being thirty-one and the oldest sixty-four. The patients exhibited a wide range of occupation, the list including laborers, stablemen, barbers, engineers, farmers, pipe-layers, housewives, grain-dealers, and carpenters. Fifteen patients in whose cases the duration of the disease previous to the date of observation

was recorded, are reported to have suffered for an average of four and a half years before coming under observation. This average period, however, is greatly increased by the inclusion of a single case in the list, that of a patient who is reported as having suffered for twenty years before applying for relief. The history of several of these patients includes a long list of accidents and maladies, none of which is believed to have had any special relation to the disease under consideration.

In no single case has there been recorded an instance of prior venereal disease; and in but three is there mention of either struma or tuberculosis in the family history.

With respect to the several sites of invasion, it is worthy of note that the face was involved nine times, including in this region cases where the cheek, the temple, the lid, and the lips were attacked; two of the lip-cases being here included, one, for reasons to which reference is made later, presenting points of special interest. The hand and the leg were each attacked six times; the thigh three times; and once each the foot, the scrotum, and the posterior surface of the upper part of the thorax. In these figures are included the cases where in a single patient several regions of the body were invaded. The right and left sides seem to have been about equally attacked.

Eight of these patients were treated by the iodid of potassium internally, most of those thus treated having secured a gratifying improvement as a result, but none being absolutely relieved. The largest benefit was reached by the four patients who had a radical operation performed, either by curetting, excision, or ablation of tumors, none of the four having suffered a return of the disease. Two fatal cases are recorded: one the well-known case of Busse, where a female patient, previously strumous, is stated to have perished as a result of blastomycetic septicemia: the other that of a patient who died soon after curetting from acute miliary tuberculosis. In all the recorded cases the characteristic organism has been recognized, and in twelve instances the blastomyces has been reproduced in cultures. It has also been transferred with pathogenic results to the lower animals.

The clinical field thus presented is both interesting and suggestive. The following questions deserve special consideration:

1. Are the instances of cutaneous disease thus far reported under the title of blastomycetic dermatitis, dermatoses due solely to changes induced by a variety of the yeast-fungus which has found access to the skin, or are they affections in which there has been intrusive implantation of the new organism upon a previously existing morbid state? This question, a response to which has already been made by several contributors to the literature of the subject, cannot yet be cate-

gorically answered. The production of a dermatosis in man by artificial introduction of a reproduction of the blastomyces in cultures has naturally not yet been practised. One writer has more or less distinctly asserted that clinically and histologically it would be justifiable to call the morbid growth in which he recognizes the blastomyces an epithelioma. Another has made an attempt to demonstrate a syphilitic origin of the malady, holding that blastomycosis is an accident of the luetic process.

These two opinions find small basis for support in the group of cases here collected. Of the six patients we have examined, in none was there the slightest suggestion of a syphilitic disorder, either in the history or symptoms. In very few of the cases was there unmistakable clinical or histological evidence of the presence of an epithelioma. With the exception of the distinctly elevated tumor of the lip in the patient whose case is reported by Dr. Montgomery, it may be said that there was a remarkable uniformity in the essential clinical and histological features presented. The type seems best exemplified in my case numbered 13 on the list, which furnished an exaggerated picture of the hand of the patient reported by me one year ago. In all the other cases seen by me, while there was a marked variation from that portrait, yet there was a distinct correspondence in several details. There was always the slightly elevated border, well defined, sharply raised, composed of minute verruciform elevations commingled with small purulent points, and from which pus could be expressed. On the side of the sound skin, there was always the bluish-red, sloping border, close inspection of which revealed pin-point sized abscesses, not very thickly set; and on the inner or morbid side of the enclosing wall was either a moist, granulating surface, or a partially cicatrized, reddish and tender disc, with here and there projecting areas made up of the verrucous elevations, similar to those recognized in the surrounding ridge. This practical uniformity of type should prove of great diagnostic value if its features can be fairly determined and established. The exaggerated picture of the lesions of the disease on the arm referred to above (Case No. 13) led my assistants at the clinic, after ocular inspection only, to introduce the patient to me as one affected with blastomycosis.

The distinction between this picture and that presented by tuberculosis verrucosa is one that is far more difficult of determination than any of the problems raised in an attempt to confuse this disease with either syphilis or epithelioma. The clinical features of blastomycosis and tuberculosis of the skin are strikingly similar. The following are points of difference:

(a) Tuberculosis verrucosa is rarely multiple, more often single in distribution. Of seventeen patients whose cases are included in the appended list, five exhibited at one time or another multiple sites of invasion, and one of these patients had six regions of the body which had been attacked by the disease.

(b) Tuberculosis verrucosa has been recognized not frequently on the face, a region which, according to the data here presented, is the site of election of blastomycotic infection of the skin.

(c) The therapeutic value of the iodid of potassium internally administered has never been demonstrated in the instance of tuberculosis verrucosa as in blastomycotic infection. The significance and importance of this remedy in this connection justifies a slight digression from the main question under consideration.

The credit of employing the potassic iodid in blastomycosis is due to Dr. A. D. Bevan of Chicago. After studying the behavior of five unmistakable cases of blastomycosis, when the patient was under the influence of the largest tolerated doses of the potassic iodid, I am convinced of the following facts:

(a) In some cases the remedy produces the most brilliant results possible, the verrucous growths smoothing and flattening, the encompassing ridges diminishing, the secretion disappearing, the entire patch of disease changing markedly from one apparently malignant to one much simpler and less formidable. In some instances, naturally, these effects are more speedy and more satisfactory than in others.

(b) On the other hand, it is to be carefully noted that while the drug seems to have a decidedly inhibitory effect upon the development of the organism and upon the resulting ravages, in no instance yet recorded has the continued administration of the iodid of potassium conducted any single case to a satisfactory recovery. In this respect again blastomycosis of the skin presents the strongest possible contrast with the so-called late gummatous infiltrations of the skin in syphilis, which by proper treatment may often be brought absolutely to the point of sound health and healing, and complete cicatrization of any ulcerated points. The nearest approach to any such satisfactory conclusion of a case was made by the patient tabulated as No. 13 in the appended list, whose case is described above as one suggestively typical. On the 14th of April last this man's arm, with the exception possibly of two or three very shallow and superficial ulcers, each hardly surpassing the dimensions of a finger-nail, seemed, at a casual glance, quite healed; and he was proportionately pleased; but the cicatriform area which had replaced the soft, moist, granulating, suppurating, and offensive surface, when examined minutely, was found to be studded

here and there with the minute abscesses which are characteristic of blastomycotic invasion of the skin. In greater measure than in this individual case has this fact been demonstrated in other patients. The first case I reported (No. 7 on the annexed list), ten months after the improvement which he joyously exhibited to the students in the amphitheater, was anxiously asking for an amputation of the affected member. As a matter of fact, no patient treated exclusively with the iodid of potassium has realized the relief secured by the four patients treated radically by surgical measures. Such statement could hardly be substantiated in the case of a similar number of instances of gummatous involvement of the skin.

Returning to the question of the essential or intrusive connection of the blastomyces with the clinical symptoms with which it has thus far been identified, while it is certain that none of the recorded cases was syphilitic, and doubtful whether any were cancerous there is nothing whatever in the pathological findings to forbid the recognition in the future of a blastomycotic complication of any morbid process. We have found that the ordinary pus-microbes flourish in proximity to the organism under consideration, and it is reasonable to conclude that recognized changes of sarcoma and epithelioma might co-exist with invasion-abscesses of the yeast-fungus. At the same time, the facts collated speak strongly in favor of a more or less definite morbid process in the human skin when invaded by the organism under consideration. It is significant in this connection that Mafucci and Sirleo do not regard the changes induced by the blastomyces as similar to the new-growths found in sarcoma and carcinoma. On the whole, the attempt to show that malignant tumors of a recognized type, and not having the characteristic symptoms of the lesions described in the group of cases here tabulated, are related to blastomycosis, either aboriginally or by intrusive infection, finds but little encouragement in the study of the collated data.

2. The question as to the mode of infection of the men and women whose cases are tabulated herewith is not definitely answered, but is illuminated by certain facts of suggestive importance. It is not without significance that in one of the cases reported by Dr. Montgomery and studied by me with him (case numbered 14 on the appended schedule), the patient was a grain-merchant who, just prior to the beginning of the disease which attacked his lower lip, remembered that "dry-rot" affected much of the grain which he handled, and which destroyed a number of cattle. This grain he is tolerably sure he nibbled when examining the crop, thus bringing the suspected source of his malady in contact with his lip. As to other sites of the body attacked by the disease in other patients, the regions of preference are, first, the

face; next, the lower limbs; next, the hand; next, the leg, to which region in a few instances there may be reason to believe that the disease was carried from the hand; lastly, the foot, the scrotum, and the back. These are regions distinctively liable by reason of special exposure to accidental inoculation. In point of fact, among the eight cases in which some part of the face was attacked, about one-half of the patients exhibited multiplicity of lesions in other parts of the body, suggesting very strongly that the disease is to a degree auto-inoculable in a single subject. On the whole, the evidence is strongly in favor of an intrusion of the organism first either at some point upon the hand or the face, and of a transference thence to other points of the surface; or to a transference of the organism first by the medium of the hand to some readily accessible spot, such as the scrotum, the inside of the thigh, or the point of the shoulder, and the subsequent infection of the hand by the thinner surface of the dorsum rather than the thicker face of the palm.

3. The question of the nature of the organism and the changes which, either directly or indirectly, it is capable of producing in the tissues, has been answered by the pathologists. Their findings agree to an extent which is suggestive of the fairly similar clinical pictures to which attention has been drawn. It seems clear that the organism is by no means always recognized as of similar size, whether actively growing or mature. It manifestly differs when cultivated artificially on different media; liquid media, for example, usually furnishing smaller forms; but it also differs in different cases. The type-case already mentioned (Case No. 13) furnished a mass of organisms at the first coarse examination, which were seen to be very much larger than those found in several of the other cases. Hessler's case is one in which the organisms were so much smaller than those recognized by others, that for that reason alone doubt was at one time cast upon the nature of the disorder. Hektoen has established the fact that even a one-per-cent. potassium-iodid solution has the effect of reducing the size of the organism in artificial cultures.

The most of observers have agreed in finding the double-contoured and vacuolated budding organism in or near miliary abscesses and in the epithelium chiefly in the rete. Sometimes the organisms have been found almost exclusively within giant-cells; at other times they have never been seen within giant-cells, but free in the connective tissue, with inflammatory cells about them. The changes induced in the epithelium by the presence of the organism are of a hyperplastic type, often with overgrowth of the rete-elements toward and into the corium, with secondary changes of an inflammatory character in all parts of the skin.

Book Reviews.

Diseases of the Genito-Urinary System. EUGENE FULLER, M.D. The MacMillan Company, New York, 1900.

The author's reputation and wide experience in the surgery of the genito-urinary system will insure a ready welcome from the profession to this valuable treatise. In it the problems are treated in a masterly and practical manner, the author forcefully setting forth his own views drawn from a rich experience, while he wastes but little time over those with whom he does not find himself in accord. It is this quality which gives great value to the work, and makes it interesting reading.

The chapters on the seminal vesicles and the prostate, more especially in their relation to gonorrheal infection and the sexual function show that the author still takes the extreme ground which he did in his book on "Sexual Disorders in the Male." At the same time he has the courage of his convictions and presents his side of the case in forceful argument. We cannot help feeling how much remains to be done in the pathology of these organs before the obscure points have been illuminated. The value of the work done by the author in this line must be acknowledged by all.

In the operative treatment of varicocele he prefers the method by ligature to the open operation and gives a clear and lucid description of the procedure.

In the treatment of simple hydrocele he gives the preference in the majority of cases to the injection method with 95 per cent. carbolic.

The chapters on senile hypertrophy of the prostate are full of valuable suggestions. He has the true surgeon's scepticism toward the Bottini operation, stating clearly the theoretical objections to it and leaving with those, who are content to use it, the burden of proving its brilliant and alluring claims.

In prostatectomy the author gives only a description of the operation of enucleation as worked out by himself.

G. K. S.

Progressive Medicine. September and December, 1900. Edited by H. A. HARE, M.D., and C. A. HOLDER, M.D. Philadelphia and New York. Lea Bros. & Co.

Stelwagon's review of dermatology in the September issue of this publication, is a great advance in every way over last year's contribution. The world's literature is sifted in gratifying fashion and the abstracts really contain the gist of the articles, a feature they often lack. It might be said that Dr. Stelwagon gives too little of his own views, exercises too little of the critic's power conferred on him, but that is something for himself to determine. References should, under all conditions, give the volume as well as the year of publication which these often do not. There is no attempt at illustration. Unless it is to be fully carried out,

this change is for the good. The remainder of the volume is given up to diseases of the thorax, blood vessels, nervous system (unusually well done) and obstetrics.

In the December edition is that review of syphilis carefully indexed and entirely omitted from the corresponding issue of 1899. It is tacked on as an appendage to genito-urinary disease and is totally inadequate, but even so, it is far better than no résumé whatever. It is an extraordinary attitude of the editorial mind which leads to the relegation of syphilis to such a position, instead of giving a full consideration of the subject in its proper place with tuberculosis and leprosy. Dr. Belfield is the author. Quite the most striking thing about his review is his statement of his practice of giving mercury and iodine during January and July of every year of a syphilitic's life. This would seem an admirable precaution at least in cases with little or no early treatment. The review of genito-urinary disease is much fuller. It is also Dr. Belfield's. The number contains diseases of the digestive tract, surgery of extremities, physiology, hygiene and therapeutics.

Clinical Lessons in Orthopedic Surgery. ROYAL WHITMAN, M.D. (Edited by G. A. SAXE, M.D., and A. L. WOLBARST, M.D.) J. T. Dougherty, 408 West Fifty-ninth St., New York, 1900.

To quote from the preface: "The preparation of the text was based upon a set of memoranda furnished by Dr. Whitman, supplemented by notes taken by the editors at his clinical lectures and demonstrations, given at Columbia University during the academic year 1897-98. A final revision has been made by Dr. Whitman."

The work is much more than the black-board notes of surgical classification of Dr. Weir's lectures which were published last year by the same editors for students' use. It seems to be a condensed manual for students and of real practical value.

A Manual of Syphilis and the Venereal Diseases. JAMES NEVINS HYDE, M.D., and FRANK HUGH MONTGOMERY, M.D. Philadelphia. W. B. Saunders & Co., 1900. Second edition, revised and enlarged.

Truly, the activity of these two men is something prodigious. It seems only yesterday that their "Skin Diseases" in a fourth edition which in the extent of its revision amounted to a practical re-writing, was being reviewed and here is an enlargement of another volume almost as pretentious, appearing after a lapse of not more than six months. Of the two, the former is more worthy; it is really now the best American text-book, in many opinions, beside that of the present scribe. Such a title to greatness could hardly be bestowed on the treatise on venereal disease. It is a good book, much better than the average where it touches upon syphilis and chancroid, but the chapters on gonorrhea are better handled in other recent publications. It is not the honest differences of opinion which are common enough but to cite which is merely an evidence of a carping spirit—it is a seeming lack of essentials. Why, for instance, is there no colored plate among so many in syphilis, illustrating endoscopic pictures? No description conveys adequately their appearance to a beginner. There seems little use in multiplication of the old, old cuts of sounds and bougies. No student goes through a graded course in these days without some drill in their use. When the modern, perfected light-carrying endoscope is recommended in high terms, why enter upon an elaborate description of those requiring reflected, extra-urethral illumination?

Division into gonorrhea, "bastard" gonorrhea and non-infectious urethritis is a good one, but there are cases of non-specific gonorrhea with an undoubtedly infectious origin, the offending organism recoverable from both parties.

There is everything to be said in praise of the section on syphilis. Its illustrations in color are life, itself. It is in the philosophic discussions—syphilis in its relation to the community and the altogether admirable chapter on sexual neurasthenia—that the talent of the authors shines most brilliantly. It is sad that the latter cannot be printed in lay publications for the benefit of the class whose terrors fill the pockets of charlatans. The pages with their wide margins and spaces and good letter-press produce a most favorable impression.

Selections.

GENITO-URINARY DISEASES.

Report of a Case of Hematuria Due to Renal Carcinoma.—By **FREDERIC BIERHOFF, M.D.** (*N. Y. Med. Journ.*, May 26, 1900, p. 805).

Bierhoff reports an interesting case of persistent severe hematuria in a female fifty years of age, in which the cystoscope was used with the result that a blood clot was found protruding from the right ureteral orifice for about a centimeter into the bladder. The left ureter was normal and discharged clear urine actively. At a subsequent time the right kidney and as much of its ureter as could be reached was removed and was found to be carcinomatous. The hematuria then ceased and the patient improved in health. Two months later cystoscopic examination showed the bladder in a normal condition, the general health was good, and the urine entirely normal and free of albumin.

The case demonstrates, "the unreliability of physical symptoms in the determination of the source of the bleeding in hematuria; the reliability of cystoscopy in this direction, and the freedom from danger to the patient of cystoscopy when properly performed."

A. L. W.

CUTANEOUS DISEASES.

A Case of Erythema Induratum Scrophulosorum.—**DAVID S. DOUGHTY** (*The Scottish Medical and Surgical Journal*, vol. VII., 1900, p. 209).

In a woman of 20 who had shown distinct physical symptoms of tuberculosis of the lungs and a considerable number of tubercle bacilli in the sputum, nodules of various sizes and of a purple violet color were to be seen at the time of her examination over the lower two-thirds of the calves of her legs. The eruption was diagnosed as erythema induratum scrophulosorum (Norman Walker). During the outbreak no signs of former pulmonary changes could be revealed by physical examination. As there was no cough, no expectoration could be gotten for examination.

The Treatment of Gouty Eczema.—**G. JOHN K. MARTIN** (*British Medical Journal*, 1900, p. 1082).

The author confines his remarks to prevention of irritation of the skin and to the maintenance of a healthy hyperemia of the skin. In treatment the regulation

of diet and avoidance of everything that can produce dyspepsia are the main points. In ordering clothing for an eczematous patient we have to strive to attain a healthy action of the skin and the avoidance of extreme loss of heat with sudden chilling of the surface; while at the same time irritation is to be kept at a minimum. Woolen is apt to be irritating and washing and sweating produce in it a change of texture rendering it denser. The most rational is cotton or cotton with wool. The extremities must be especially protected with warm socks and mittens.

As regards diet alcohol must be especially avoided; then all forms of raw or cooked fruit containing much fermentable sugar or acid especially strawberries, gooseberries, apples, lemons and rhubarb. As to drugs the only valuable ones are those that relieve the indigestion and increase the alkalinity of the blood. Locally he used dusting powders and in the dry irritating forms an ointment of 10 minims of liquor carbonis detergens to an ounce of lanolin. In severe, obstinate types baths (98° F.) with the addition of sulphur water, prepared by boiling sulphur and slaked lime.

Contributions to the Knowledge of So-called "Sarcoid Tumors" of the Skin.—H. FENDT (*Arch. f. Derm. und Syph.*, 53, 1900, p. 213).

The diseases grouped under the name of "Sarcoid Tumors" (Kaposi), such as mycosis fungoides, lymphoderma cutis, sarcomatosis cutis, and sarcoma cutis properly speaking in some degree resemble sarcomata, but anatomically and clinically present some features which cannot be associated with sarcoma. The writer reviews critically the literature of the subject and basing his deductions upon personal clinical and microscopical observations arrives at the conclusion that the disease described by Kaposi as sarcomatosis cutis cannot be grouped among the sarcomata; anatomo-pathologically and clinically it differs from them; the etiology is at present still unknown, but we probably have here to do with an infectious disease.

To arrive at a diagnosis of carcinomatosis cutis a microscopical diagnosis is essential, as clinically sarcomatosis and carcinomatosis are very much alike. He regards the case, described by Joseph under the name sarcomatosis cutis as a metastatic carcinoma of the skin.

Sarcoma of the Skin.—W. W. TWANOFF (Prof. Pawloff Clinic, St. Petersburg). (*Arch. f. Derm. und Syph.*, 53, 1900, p. 325.)

The writer gives a very minute clinical account of a case of sarcoma cutis. He could not find a similar case in the literature of the subject. The clinical course of his case can be divided in two periods, the first period, which lasted only two months, corresponded with the usual course of a multiple sarcoma of the skin, especially with that form of the disease which is anatomically designated as a round-celled sarcoma. In the second period, which lasted two and a half weeks, the skin affection was relegated to a second place; here symptoms of septic infection predominated; sudden loss of strength, severe fever, hemorrhage, vomiting, diarrhea, inflammation of kidneys and at the end a lobar pneumonia. The autopsy revealed a picture which corresponded with the clinical symptoms; outside of numerous metastatic tumors there were found swelling and fatty degeneration of the parenchymatous organs, acute tumor of the spleen, parenchymatous nephritis, a fresh lobar pneumonia and hemorrhages around the tumors of the skin.

Whether this fulminating and special course of the second period was due to a complication with a septic infection, or was caused by the sarcomatous process itself, the writer does not claim to decide. He examined bacteriologically *in vivo* and *postmortem* the contents of the tumors and patient's blood without satisfactory results. He succeeded only in satisfying himself that the thrombosis of the arteries was neither produced by micro-organisms nor by sarcoma cells carried in the blood stream. These negative results, however, are not sufficient to exclude the possibility of an infection. He admits the possibility that the sarcomatous process might have produced the acute symptoms. For microscopical examinations tumors were excised during life and many more sections from different organs were obtained after death. Judging from the histological examinations the tumors belong to the group of multiple, non-pigmented sarcoma of the skin, presenting many characteristic features of diffuse round-celled sarcoma (Unna).

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Original Communications.

SYPHILIS AND ASSOCIATED AFFECTIONS.¹

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NEXT to tuberculosis, syphilis is perhaps the most important disease which has affected the human race. Whether it is judged by its very wide distribution, over all the inhabitable globe, by its insidious modes of entry, by its interference with the healthy procreation of the species, by the misery which it may often bring on the sufferer, by its lengthened duration of influence, or by its rebelliousness to complete cure, it is a disease worthy of the closest observation and study.

The literature of syphilis is probably greater than that of any other one malady, and yet we are still far from the accurate knowledge of it which might be desired. It is not a little surprising that with all the brilliant minds which have observed and studied the disease, we have not yet arrived at a knowledge at all exact, either in regard to the nature of the poison, or as to the manner in which it affects the system; the true character of the syphilitic virus has eluded the laborious efforts of the microscopist, the chemist, and the clinician.

But, although the infective principle of syphilis has not yet been isolated or determined, there seems to be little doubt in the minds of those who see most of the disease that it is due to a toxin, probably the result of a micro-organism, akin to those producing tuberculosis and leprosy.

¹ Presented at the Fourth International Congress of Dermatology and Syphilography, Paris, August 8, 1900.

Syphilis is certainly an infectious disease, and as I understand the topic given for discussion, "Syphilis et infections associées," it is to study the biotic relation of syphilis with other infective diseases. The subject is a large and interesting one and if it could be extended to include all the relations of syphilis with other disease of all kinds, much more of interest would be developed; at present it must be limited to the topic proposed. At the outset, however, it must be stated that heretofore there has been no attempt to consider the subject as a whole, and, as the present paper must be regarded as a pioneer effort, apology is offered for errors of omission and general crudeness. Having spent many years in the study of one aspect of syphilis (syphilis insontium) the writer is in a position to appreciate the impossibility of doing justice to this large subject in few months.

Nor are we yet in a position to rightly recognize the biotic relations of syphilis with other infections, for, thus far, illustrative reports of cases have been given only casually, and apparently without any very fixed idea on the part of the profession that there are any very definite relations between the virus of different diseases. Moreover, thus far most of the observation and study has been only clinical, and very little microscopic and laboratory work has been advanced. As fuller attention is called to the subject by this discussion, it is hoped that more abundant and accurate observations will be made, with pathological studies, and that in the future the subject may be presented far more completely and accurately.

The material which is at hand is not sufficiently abundant or accurate to afford the data for a fully satisfactory classification of all the phenomena which may occur; but it may not be amiss to offer a provisional scheme upon which it would seem desirable to collect facts.

Two main divisions are apparent: first, when the infection is coincident, or nearly so; that is, when, with very recent syphilitic infection another virus enters the system and the two seem to struggle for the mastery; and, second, when the one disease antedates or postdates the other to a considerable length of time, and we have to do with the later results of the toxines rather than with their immediate and active operation in the blood and tissues. The following would seem to be the points for study and illustration in the clinic and laboratory.

I. DOUBLE COINCIDENT PRIMARY INFECTION.

(a) *Syphilis with a local disease.*

1. Syphilis and chançroid.

2. Syphilis and microbiè infection.

(b) *Syphilis with a general disease.*

1. Syphilis and vaccinia.
2. Syphilis and variola.
3. Syphilis and erysipelas.
4. Syphilis and measles.
5. Syphilis and typhoid fever.
6. Syphilis and malaria.
7. Syphilis and diphtheria.
8. Syphilis and tuberculosis.
9. Syphilis and lepra.
10. Syphilis and sepsis.

II. DOUBLE SUBSEQUENT INFECTION.

(a) *Syphilis antedating:*

1. Syphilis and above diseases.
2. Syphilis and lupus.
3. Syphilis and epithelioma.
4. Syphilis and seborrheic eczema.
5. Syphilis and psoriasis (?), etc.

(b) *Syphilis post-dating*⁷

Syphilis and same diseases.

In studying syphilis and associated infections it would also be well to consider the effects produced, which may be, first, to retard; second, to accelerate; and third, to modify the course of either disease.

As previously remarked, the data, mainly clinical, which are accessible, are not sufficiently abundant or accurate to allow of studying the subject fully on the above plan, and we must be content with presenting such matter as is at hand, illustrating such points as may be possible, hoping that more data will be recorded, and that at some future time an abler pen may present the subject in a more complete and satisfactory manner.

Multiple infection, and the effect of syphilis modifying other diseases, have long been the subject of medical observation and remark, in a rather indefinite manner, and many uncertain allusions occur in regard to hybridity, but as yet few clear ideas appear on the subject. We will now endeavor to present some of the recorded observations relative to the occurrence of syphilis with other infectious diseases.

(a) *Primary syphilis associated with a local infective disease.* I will not take time in dwelling upon the work of Bassereau, Ricord, Clerc, and others, upon the relation of the chancre and chancroid, with which all are familiar. I will only mention the final work of Rollet, whereby he was able, by means of clinical research, and a study of the experience of his contemporaries, to demonstrate to a certainty those

two hybrid lesions, the mixed chancre and the vaccino-syphilitic chancre.

But, unfortunately, this epoch-making work by Rollet led to but little other results, and it was not for many years that further studies were made in regard to the biotic relations of syphilis with other diseases.

The present status of opinion in regard to mixed chancres cannot be better given than by brief reference to the recent studies of Balzer.⁵ "Infection may be simultaneous or successive. The former may result (1) from another mixed chancre, which is very rare, or (2) from an infecting syphilide associated with a chancroid, or (3) from a chancroid occurring in a person with recent syphilis.

"Successive infection may result (1) by a person with chancroid being exposed to syphilis, and the sore becoming thereby infected; (2) by a syphilitic chancre becoming directly infected from a chancroid. When infection is synchronous, the chancroid may become entirely healed, before the chancre appears, in the scar of the chancroid. When a mixed chancre is inoculated on its bearer, a chancroid results, as a rule—rarely a mixed chancre."

The subject of mixed bubo is one of great interest, but is extremely complex. When a syphilitic bubo suppurates, the excitant of the supuration may evidently be one of several micro-organisms. Besides the chancroidal strepto-bacillus, the staphylo-, strepto-, and gono-coccus may be accused. It is also possible for the syphilitic virus to arouse into activity the bacillus of tuberculosis. It seems reasonable to suppose that when a syphilitic bubo suppurates the chancre should represent some kind of mixed infection.

There is a great lack of definite microscopic studies in connection with the microbic infection of the chancre, and at present the exact behavior of the primary sore with different infecting organisms cannot be stated. Mauriac has mentioned the association of the chancre with a furunculosis or anthracoid condition, and also with infectious balano-posthitis, but no macroscopical data are furnished. Reference is also occasionally made by writers to a diphtheritic chancre, but no accurate studies are accessible. The microscopy and bacteriology of gangrenous chancre has also not been accurately studied.

We come now to the next division, which possesses much interest.

(b) *Syphilis associated with another infectious general disease.* The recorded observations bearing upon this are numerous, but mostly clinical, and with very little bacteriological confirmation.

1. *Syphilis and vaccinia.* I will not consume time in entering

largely into the subject of vaccino-syphilis, which has been so often and so fully and ably discussed. As is well known, when syphilis is communicated in the act of vaccination, whether from contaminated lymph or by extraneous infection, the vaccine vesicle is developed first and may run a normal course, and about three weeks later the chancre develops in the site of the vaccination, presenting much the usual appearances of extra-genital chancre. There are no observations to prove that the syphilitic virus interferes with the protective influence of the vaccinia. Nor is there evidence that the course of the syphilis is greatly modified by the vaccinal process; the disease runs its usual course, but this is often a severe one, with a very large mortality (Fournier), which may in part be accounted for by the vaccinia, or possibly by septic elements introduced at the same time. Julien⁴⁶ states that the occurrence of vaccinia may accelerate the appearance of syphilides in one already infected.

2. *Syphilis and variola*. The effect of variola during the course of florid syphilis is various, as noted by a number of observers. Thus, Ziffer¹⁰³ records the case of a woman with severe secondary symptoms who, after a most severe attack of smallpox, apparently recovered completely from the syphilis, while her husband, who escaped smallpox, suffered greatly from the disease. Neumann⁷⁵ and others confirm the fact that macular, papular, and squamous eruptions of syphilis disappear during the course of variola. On the other hand, Bamberger, Stohr, Guntz,³⁶ and others have seen variolous lesions transformed into those of syphilis, syphilitic ulcers becoming foul and covered with a thick yellow exudation, and pustules accumulating in great numbers upon broad condylomata. After smallpox the course of syphilis is said to be lighter than usual, but possibly this is due to the lapse of time after infection.

3. *Syphilis and erysipelas*. In 1873 Mauriac⁶⁴ published some very interesting observations in regard to the influence of erysipelas on syphilis. The patient was a very scrofulous subject and acquired a mixed chancre, with suppurating bubo, which was followed by abundant general syphilitic symptoms, and the glands in the neck suppurated, leaving typical scrofulous ulcers. The case proved most rebellious to treatment, but in the sixth month of the syphilis an attack of facial erysipelas occurred and the lesions of syphilis vanished, including mucous patches; but the strumous glands and ulcers were unaffected. An interesting feature of this case is the existence of four distinct infectious elements; the syphilis and the chancroids of the mixed chancres giving a suppurating bubo, the tuberculosis, in the glands, and the erysipelas.

A very considerable number of writers have confirmed the antagonism between the toxins of erysipelas and syphilis, which the present writer has also observed; Neumann quotes Mauriac as having seen initial scleroses vanish in a week, and mucous patches and condylomata disappear in a very short time; also, Deshna¹⁸, Van der Hoeven, and Petrousky, in support of the same. Horwitz,⁴¹ Falcone,²⁷ and others report the removal of early and late symptoms of syphilis by attacks of erysipelas. On the other hand Schuster⁸⁷ does not believe in the curative influence of erysipelas on syphilis, but attributes the disappearance of symptoms to the high temperature, as syphilitic lesions also disappear in other diseases with febrile action. Mauriac, however, saw the same interruption of the course of syphilis from an erysipelas which was really afebrile. Lancereaux,⁵² on the other hand, states that patients with visceral syphilis are very liable to be attacked with erysipelas, even when it is not very prevalent, and that it is then frequently fatal. In all these clinical reports there are no bacteriological data, nor experimental attempts at inoculations with erysipelas toxin in syphilis, such as have been made in connection with carcinoma and sarcoma; such an effort to understand the influence of the erysipelas toxin on syphilis would be very desirable.

4. *Syphilis with measles and scarlatina.* Mauriac⁶⁷ has carefully recorded the effect of measles in a case of recent syphilis. A man aged 24 had two initial lesions on the penis, with painful right inguinal adenitis. Twenty days later he acquired the measles and the chancres healed very promptly and the inflamed inguinal glands subsided within a few days. On the seventh day of the measles, and while it was in full desquamation, a very abundant and general flat papular syphilide covered the body and limbs. Mauriac believed that the measles had the effect of hastening the development of the eruption, which occurred on the twenty-seventh day of the chancre, instead of from the forty-fifth to fiftieth day, as common, and also that it had some influence on its form and confluence. This is the only specific statement of a case of the kind which is accessible; but it is recognized by writers that when the eruption of syphilis is present it may disappear during the attack of measles or scarlatina, to return later, when the disease is past. Amiel¹ in 1887 wrote a thesis in regard to the relations of syphilis with eruptive fevers, which, however, is not accessible.

5. *Syphilis and typhoid fever.* A number of observers have recorded the occurrence of typhoid fever in connection with syphilis. In one case Jullien⁴⁶ reports that no secondary symptoms followed a well-defined hard chancre, apparently because the coincidence of the typhoid fever prevented the further development of the disease. The same

author quotes Diday in a case where the appearance of the first eruption was delayed to 120 days by the inter-occurrence of typhoid. He also quotes from the Prussian military report of 1879-1881 a case where a roseolous exanthem and buboes disappeared in twenty-four hours after the beginning of typhoid; but the patient was hardly discharged convalescent when another general syphilitic eruption appeared and he was admitted to the venereal ward. In another case of a very rebellious syphilide of a year's duration, with pharyngeal ulceration and severe headache resisting treatment, a severe attack of typhoid caused the disappearance of the symptoms, with no recurrence within several years. Krim⁵¹ also reports the complete disappearance of secondary syphilis and adenopathy on the advent of typhoid; the patient had been under specific treatment for only ten days previously. Defize²⁰ also reports a somewhat similar case. Most writers attribute the disappearance of the syphilitic symptoms to the febrile disturbance, but some deny this; the subject is worthy of further observation and study, with the application of the Widal test.

6. *Syphilis and malaria.* The effect of malarial infection on syphilis is quite different from that of the diseases hitherto mentioned. According to Lepers⁶⁰ syphilis and malaria are maladies caused by microbes of probably different nature and habits. M. Lepers advances the hypothesis that the paludism microbe is aerobious, while the syphilitic microbe is anaerobious; it would follow, therefore, that the vital energy of the latter increases in proportion to the oxygen consumed, which is supported by the ravages of syphilis in those reduced in health. Lepers, Leloir,⁵⁸ Pellizzari, Campana,¹³ and others give cases to show both that the syphilitic outbreak may be accentuated by the occurrence of malaria, and that malarial cachexia is invariably accompanied by serious visceral lesions and an aggravated type of syphilis generally; which experience is abundantly borne out in the practise of the writer. There is much need of investigations accompanied with bacteriological research, in regard to the presence of the plasmodium and its behavior in syphilitics.

7. *Syphilis and diphtheria.* Some writers, as Morrow,⁷² have spoken of a diphtheroid chancre, but no bacteriological proof is at hand that the disease is a combination of diphtheria and syphilis, and Taylor⁹² explains the cause of the unusual appearance of the primary lesion on quite other grounds. Hudels and Bourges⁴² have made bacteriological studies of the false membrane found in connection with diphtheroid syphilides. In the six cases studied the results were as follows: *Streptococcus pyogenes* alone, 2; *bacterium coli commune*, 2; *staphylococcus pyogenes* alone, 1; *staphylo-* and *streptococcus* in association, 1.

Matthews⁶³ reports a case of diphtheria complicating syphilis, where, after brief specific treatment, the chancre and adenopathy disappeared; severe diphtheria then occurred, followed by faucial paralysis and some paraplegia, and the syphilitic eruption finally appeared at the end of 132 days, the effect of the diphtheritic toxin being apparently to delay the occurrence of secondary symptoms. Here also there is need of much laboratory and bacteriological study, as well as clinical record, to elaborate the real relations between the two diseases.

8. *Syphilis and tuberculosis.* This is one of the most interesting and important divisions of our subject, and one on which there has been much work done; while, owing to the certainty and relative ease of demonstrating the tubercular aspect, it is one which is capable of yet great further development. The literature of this is so large that it will be impossible, within the compass of this article, to do justice to the many good reports, accompanied by microscopic examination, which have appeared. All writers agree that tuberculosis is a very serious complication of syphilis, the two toxins seeming to act synergistically, instead of antagonistically. It is, of course, unfortunate that, in regard to the syphilis reliance is thus far entirely on its clinical features, and that there is not the same microscopical proof which belongs to tuberculosis.

Verneuil, ^{97, 98}, was one of the first, in 1881, to call attention to the possibility of having hybrid lesions of syphilis and tuberculosis, which have been repeatedly observed by Schottelins,⁸⁶ Baumgarten,⁶ Landowzy,⁵³ Elsenberg,²⁶ Brunelle,¹² Leloir,⁵⁹ and others. The most interesting aspect of the subject is one developed by Leloir in regard to the relationship between syphilis and true lupus, in certain cases. A typical case is described in which a highly tuberculous prostitute became infected with syphilis. After an interval she presented what was apparently a papulo-tuberculous syphilide on the neck. She already had an unhealed tubercular fistula in the same locality. Anti-syphilitic regimen produced only partial improvement in the papulo-tubercular syphilide, and for its radical cure the curette, thermo-cautery, etc., were employed. While originally this lupus-like lesion was firm and copper-colored, like a tubercular syphilide, it became, under the anti-syphilitic treatment soft, brownish, and translucent, and of a gelatinous consistency. Before the anti-syphilitic treatment a portion of the lesion had been excised. It presented the histological picture of lupus, with tubercle bacilli, but also the thickened arteries of syphiloma. Notwithstanding the presence of Koch's bacilli, animal inoculations resulted negatively. When the case had derived all possible benefit from mercury and iodide, further histological examination was made and

lupus tissue was again in evidence, but with the addition of a reticulum of sclerotic tissue, believed to represent the former element of syphilis. The entire picture resembled that of lupus sclerosis. Animal inoculations were now successful. Elsenberg²⁶ found gummatous and even ecthymatous lesions in a phthisical syphilitic swarming with tubercle bacilli.

9. *Syphilis and lepra.* Leprosy is another infective disease which greatly complicates syphilis, and the occurrence of the two diseases in the same individual effectually dismisses the claim which has sometimes been made that leprosy is a form or offshoot of syphilis. Leloir⁵⁸ states that leprosy is not infrequently complicated with syphilis, and gives many cases; Hillis⁴⁰ also notes the same. Impey⁴⁴ claims a special form of syphilitic leprosy, but his description is not at all clear; nor is there material on hand from which it can be stated just what effect the two poisons have on each other. Microscopic studies are lacking, which are very desirable, for it is quite possible that the lepra bacillus might be found to modify the syphilitic lesion.

10. *Syphilis and sepsis.* The various septic elements, which are almost omnipresent, not infrequently find their point of entry with the syphilitic poison. These, as Taylor and others have shown, both modify the character of the initial lesion, and produce glandular inflammation and subsequent systemic infection. This is peculiarly liable to occur in connection with chancre of the finger. In Taylor's cases there was not only inflammatory adenopathy, but also chills, high fever, sweats, etc., which the present writer has also observed. The septic infection seems to act in a similar manner with other poisons, and holds up or arrests the progress of the syphilis, which, however, when it appears at a later date, commonly exhibits unusually severe symptoms. Stitzer⁹¹ has recorded a case of most acute development of syphilis following a gangrenous primary sore.

The rôle of pus organisms in the production of the pustular lesions of syphilis has been the subject of some recent studies. Gilchrist³² has found the streptococcus pyogenes aureus and albus in early and late pustular syphilis, but Unna⁹⁵ has not been able to cultivate ordinary pyogenic germs from syphilitic pus, although he does not doubt that ecthymatous lesions are the result of mixed infection.

Hochsinger and Chotzen^{40a} claim to have found a coccus, very like the streptococcus, in the blood of children who died with hereditary syphilis; Kolisko⁴⁸ who repeated the observations was able to cultivate the streptococcus pyogenes from the blood of the hereditary syphilitic liver, but claimed that it was not always found; when present it indi-

cated a double infection, which supports the clinical fact that hereditary syphilitic children are peculiarly subject to septic infection. Neisser⁷⁴ believed that the streptococcus, however accidental, might give rise to sepsis and cause the suppuration of the joints, with separation of the epiphyses. Wells¹⁰¹ found staphylo- and streptococcus infection in the expressed juice of the altered thymus gland, in a pleural exudate and in bullæ found on the skin, in a child who died with inherited syphilis.

II. *Double subsequent infection.*

(a) Syphilis antedating, and

(b) Syphilis post-dating, above and other diseases.

Time and space forbid our attempting to elaborate fully all the points which might be made in connection with various aspects of the subject, and unfortunately the necessary data are not at hand for such a study as can undoubtedly be made at a later date, when more observations are on record.

Scattered records are found of the relation of syphilis with other diseases, some of which may be briefly mentioned. Doutrelepont²⁴ reports the development of epithelioma upon the site of an unhealed syphilitic chancre. Lang⁵⁴ and others have found lesions with the histological characters of the tubercular and gummy syphilide and epithelioma. Finger³⁰ and Oedmansson⁷⁸ have studied the relations of syphilis and erythema multiforme. Unna⁹⁴ presented the clinical aspects of seborrheic eczema in connection with syphilis, but no clear demonstration of a true symbiosis has been presented. Taylor has also noted the occurrence of the two conditions. As a clinical curiosity might be mentioned the case reported by Wickham,¹⁰² where there were hybrid lesions of favus and tubercular syphilide, the latter disappearing under prolonged antisiphilitic treatment.

In looking over the matter which has been presented, incomplete as it is, we are struck with the fact that the poison of syphilis has certain biotic relations with that of certain other infections. At the present stage of our inquiry, and with the reported material on hand, it is impossible to define the relations as accurately as could be desired, and as future study will undoubtedly develop. These studies should proceed along the lines recently developed by Ward,¹⁰⁰ namely: (1) *Symbiosis*, where two organisms existing together assist one another by their action; perhaps one prepares a pabulum for the other or else removes something which would antagonize it; (2) *Meta-biosis*, where one organism prepares or paves the way for the action of another; and (3) *Anti-biosis*, where one organism antagonizes another.

We have glimpses of these effects in the matter which has preceded, and probably much more exists, illustrating these points. Thus, in erysipelas there seems to be an *anti-biosis*, as cases are recorded where erysipelas appeared to be curative to syphilis. The toxins of some other infectious diseases seem also to have some effect in arresting the progress of the syphilis in its early stages, but as their effects pass off the virus of syphilis asserts itself. *Meta-biosis* seems to be indicated in malaria, where the depressing effect of the plasmodium appears to pave the way for and to render the subject peculiarly liable to severe symptoms in syphilis. *Sym-biosis* is illustrated by several infective diseases. Tuberculosis flourishes with syphilis and its bacilli have repeatedly been found in connection with syphilitic lesions, while clinically it has long been known that the concurrence of the two diseases is fraught with great danger.

Septic conditions also aggravate greatly both the primary and later manifestations of syphilis, and many observations are on record where the various pus-producing micro-organisms have been found in connection with the lesions of syphilis.

It is a question worthy of consideration whether the unusual severity of certain cases of syphilis is not largely due to a mixed infection. Many cases are on record where peculiarly severe and suppurating syphilides have followed a gangrenous primary sore. This may in part also account for the severity of the disease following extra-genital infection, especially when occurring on the fingers, as in surgeons, gynecologists, and others. Tuberculosis, of itself, has been shown to be a relatively mild disease, but aggravated immensely when combined with other pathogenic germs, as the streptococcus, pneumococcus, the bacillus of influenza, etc. In the same way syphilis often occurs as a very mild disease, while again it will present most severe and distressing symptoms, and prove unusually rebellious to treatment. It is well worthy of study whether these cases do not owe their severity to a mixed infection.

In closing this brief review of the subject the writer would again apologize for its many imperfections and omissions. The field is a relatively new one, but one well worthy of careful and conscientious research and observation; and it is hoped that the result of this discussion may be a future accumulation of data which will lead to a far more perfect knowledge than we now possess, of the relations between syphilis and associated infections.

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SYPHILITIC LESIONS OF THE WHEAL TYPE.

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IT has frequently been said that syphilis may imitate almost any other disease; that is, produce a more or less imperfect image of almost any pathological condition. This applies with particular force to the manifestations of syphilis on the skin, which under certain conditions may resemble almost any other non-specific skin disease, and with different frequency all the different types, primary and secondary, of individual lesions may be met with in syphilis. But about the occurrence of lesions of the type of the wheals, urticæ or pomphi, almost nothing is found in literature, particularly in American, British, and German writings; several French authors, however, have mentioned the similarity of some syphilitic eruptions to urticaria. Robert W. Taylor, in the fifth edition of Bunstead and Taylor, p. 563, in speaking of the pathological anatomy of the macular syphilide, says: "The incomplete papules, resulting from this limited cell-increase, mingled with the hyperemic patches, form an eruption which has been called by Bazin 'roséole papuleuse,' and by Fournier 'roseola urticatæ.'" Fournier, in "Leçons sur la Syphilis," p. 368, distinguishes usually in only a certain number of spots, there is, besides the hyperemia, moderate cell-increase into the papillæ, producing a slight salience of the lesions—a condition called 'roséole papuleuse' and 'roseola

urticate.'” Fournier, in “Leçons sur la Syphilis,” p. 368, distinguishes from simple roseola a “roséole orticé, which differs from the former only by one sign: the spots are slightly elevated instead of being flat, convex, like puffed-up (bombées comme boursoufflées), and give the sensation of a slight prominence (*relief*) to the eye, as well as to the finger, so that they remind you of the lesions of urticaria.” He considers rosurticata a better name than papulata, because the special conditions of the papule do not exist in these cases, and claims that the worst papule ought not to be turned from its proper anatomical meaning to simply signify standing out, prominence, and simple inflammatory flexion. His definition of a papule is the following: a dry inflammation of the derma, a circumscribed and interstitial new formation of the corium. Somewhat different and more characteristic is the description of “Roséole Orticé” given by Dr. Langlebert, the son of Ed. Langlebert, in his “Traité pratique de la Syphilis,” Paris, 1888, p. 151: “This roseola, decidedly benign, like the simple roseola, is characterized by small round patches or spots, rosy or coppery, from the size of a fifty-centime piece to that of a franc, at the utmost. It develops equally as the first symptom of the cutaneous manifestations of syphilis and as a relapse of a simple roseola; it may spread over the entire surface of the body, with a preference, however, for the abdomen, the base of the chest, and the inner aspect of the extremities. The characteristic feature of these patches is the formation of a slight projection above the surface of the skin, rather similar to those of urticaria or to the swelling which results from the sting of the nettle, hence its name: roséola urticata. It must immediately be stated that the absence of general symptoms and particularly of the itching and stinging, as well as the persistency of these spots for several weeks, easily distinguish this specific eruption from simple urticaria. Its duration is several weeks, it ends with a more or less pronounced furfuraceous desquamation.” Citing his father, Langlebert considers his ros. ortice as the connecting link between the macular and the papular syphilide.

There is a remarkable resemblance between this description of Langlebert's with the following citation from Taylor's newer work. On page 606, he says: “There is a third form of the erythematous syphilide, not at all uncommon, but which has not been clearly described. It consists of small, well-marked, subdued red spots, having a blotchy or irregular outline, oftentimes gradually lost in the surrounding skin, and averaging from two to four lines in diameter. These spots, besides being readily seen, are as easily felt as very minute little prominences of the skin. The lesion is, though elevated, not at all papular, and close inspection shows that its salience is due to the

marked localized hyperemia, particularly around the follicles. This eruption has an individuality of its own, is wholly different from the 'roséole papuleuse' of the French, comes out with tolerable promptness, and is seen in its most characteristic form on the anterior aspect of the trunk, less so on the back, limbs, and face, where its so-called elevation is less marked. It is blotchy, persistent in its course, becomes scaly quite early, and on its decline subsides into small pigmented spots. While we know nothing of its histology, its clinical appearances impress one with the idea that the focus of hyperemia is the sebaceous follicles, and that the circumambient erythema results from that." Besides numerous observations of Fournier's ros. urtic., I have myself seen from time to time on patients within the early period of secondary syphilitic infection eruptions which attracted my particular attention because they apparently were at variance with the types of syphilides as usually described by the authors and met with in practise. You will presently see that these eruptions had much in common with Taylor's third form of the erythematous syphilide and with Langlebert's roséola urticata, the description of which I had not come across until after I had decided to write this paper, but they showed some more pronounced features and some deviations from their course. The lesions occurred almost wholly on the front aspect of the trunk, chest, and abdomen, only few extending over the lateral portions of the chest, the back, and the inner aspect of the thigh. They never appeared in very large numbers, not more than twenty-five to thirty being present in a single case. On removal of the clothes, if seen at a distance, the eruption made the impression of an urticaria with an exceptionally dark hue of red, without regularity or symmetry in distribution. On closer inspection the single lesions presented themselves as flat, spherical elevations, from $\frac{1}{4}$ to $\frac{1}{2}$ of an inch in diameter, of a dark-red color, sometimes almost attaining a light claret color. Their projection above the surface of the skin very gradually increased from the periphery towards the center, without any sharp demarcation in level or in color, and reached an elevation up to about $\frac{1}{4}$ of an inch. The red color of these patches would not disappear on pressure, but would give way to a more brownish tint; sometimes dilated blood-vessels would be distinguished; to the touch they appeared firm but elastic, not hard like a papule. On the surface the epidermis was absolutely intact, the natural furrows, fields, and ridges, although somewhat reduced, were distinctly visible; throughout their course the epidermis did not undergo any decided change and desquamation did not take place as far as my observation goes. I have no knowledge of the mode of development of the lesions. In all the cases which I remember,

this eruption made its appearance within three to four months after infection; in some instances there were no other syphilitic marks or papules present; in some cases a faint roseola, apparently evanescent was still visible, so that the elevated patches seemed to have appeared as a relapse of the roseola. In one of my cases only three such patches were noticed: one on the chest, one on the abdomen, and one on the thigh. They were the only manifestations of syphilis present on the skin, when the patient came first under observation, and were followed about two weeks later by a macular syphilide of the usual character and distribution; that is, they represented a preliminary localized syphilide. Gradually, the swelling would begin to subside, leaving only a more or less pronounced pigmentation. Under any circumstances their course would be an exceedingly slow one, extending over six to eight weeks. even under treatment, the pigmentation persisting for a still longer period. This became particularly conspicuous in the case of the preliminary syphilide, where the patches were distinctly present for weeks after the general macular syphilide had completely disappeared. Itching, stinging, burning, or other sensory symptoms were absent; I did not notice that the patients were subjected to habitual urticaria or exhibited an inclination to urticaria factitia. In their further course the cases did not develop any unusual features of syphilis.

Evidently the eruptions just described were neither macular nor papular; they presented most of the essential features of wheals. The wheal is by most authors enumerated among the primary types of lesions and with slight variations defined as a circumscribed edema of the papillary layer and the corium, producing a flat, more or less firm elevation. Most authors insist on the evanescent character of the lesions and on the presence of sensory symptoms like itching and stinging. However, not to mention the so-called urticaria papulosa there is recognized already an urticaria perstans, in which the wheals may persist for days, and acute circumscribed edema, a condition closely related to urticaria, may last for a like period. In regard to the sensory symptoms, not only may they vary a good deal in different individuals affected with urticaria and under certain circumstances may be almost entirely absent, but we also have quite typical wheals in dermatographism without the slightest sensory disturbance. So the absence of these two symptoms seems not a sufficient reason why we should not assume from their clinical appearance the identity of these patches with wheals. The more so since we must not overlook that the presence of the syphilitic virus would be most likely to modify and affect the original process, and that it may be held responsible for

the difference in the color, which, as has been stated, was much darker than is usual in urticaria.

In the absence of the microscopical examination of some of the lesions, which I very much regret myself, we can assume that the same or similar histological conditions must prevail as in urticaria. Authors differ somewhat in the descriptions of the pathological anatomy of the wheal. Unna found the condition of a spastic edema of the most acute form, with enormous dilatation of the lymph vessels and blood stasis in the large veins, which causes compression of the capillaries, resulting in localized anemia of the central portion of the wheal, he did not find migratory cells, nor symptoms of inflammation, particularly no leucocytes. Others, however, among them *Leloir*, *Vidal*, and particularly *Gilchrist*, describe conditions characteristic of inflammation; large numbers of polynuclear leucocytes, especially inside and around the veins, the presence here and there of small quantities of fibrin, and an increased number of mononuclear cells (lymphocytes) found principally around the blood vessels. It is evident that from such conditions it would require but a very slight step to an increase of cell infiltration, particularly in the presence and under the influence of syphilis, with its essential features—cell infiltration and alteration of blood-vessels.

Most authors agree that the appearance of wheals is due to an angioneurosis; that nerves and perhaps, to a smaller extent, muscles cause the spasmodic contraction of the blood-vessels. It must, however, be conceded that our actual knowledge of angioneurosis and vaso-motor neurosis is a very limited one, and that these terms are often used only to cover our ignorance. In a recent publication from the clinic of Prof. Tommasoli, in Palermo by Philipppson (*Archiv f. Dermatol*, t. 1, p. 33, "Ueber Embolic und Metastase in der Haut"), the author has subjected the entire doctrine of angioneurosis to a sharp critic, and has attempted to show that most of the phenomena heretofore considered as due to nerve influences, particularly those of the erythemata, involving urticaria, may and ought to be attributed to an alteration of the blood-vessels, principally of the veins, caused by embolism of microbes and other irritating substances. He also traced to embolism various affections in lepra, tuberculosis, and syphilis. Without being ready to accept Philipppson's views without further confirmation, I must say that an embolic process would easily account not only for the formation of the patches of syphilis for the preliminary localized syphilides, for which heretofore we have not been able to offer a satisfactory explanation.

In conclusion I wish to state that the purpose of this paper is not

so much to insist upon the presence of the wheal type in the cases represented, but rather to call your attention to the occasional occurrence of such peculiar syphilitic eruption, different from those usually acknowledged and considered in the books, but not generally recognized, which has been independently described by different observers.

AN UNUSUAL PHENOMENON OF SYPHILIS; OTHEMATOMA.¹

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OTHEMATOMA, or hematoma auris, to the dermatologist and and syphilographer, if I dare judge from my own experience, a sort of curiosity, is among otologists a well-recognized affection, and all text-books on ear diseases devote to it more or less space. Sexton gives it something like forty pages. It consists in a rather suddenly appearing effusion of blood between the cartilage of the auricle and the perichondrium, separating this latter from the former. The claim that the effusion is subcutaneous lacks confirmation by the majority of observers. It is usually situated on the upper half of the anterior aspect of the organ and the swelling is considerable—enough to entirely destroy the normal outlines of the auricle as far as involved and to give it a rather grotesque appearance. The integument over this ovoid tumor is entirely normal or even somewhat paler, owing to the pressure of the extravasate. Upon palpation one observes distinct fluctuation. After incision or puncture the contents will ooze forth and will be found to be a thick, serous fluid, the solid parts of the blood evidently having been deposited on the walls of the cavity. All authors seem to agree as to the rather grave character of this affection, which often leads to a considerable destruction of the cartilages and the consequent disfigurement of the auricle.

The chief occurrence of othematoma after traumatism is well established. Steinbrügge is even inclined, in the absence of a history of a recent trauma, to attribute it to long-forgotten injuries. All authors mention it as a somewhat common affair among the insane, and according to Burnett, there was once a period when a patient presenting this anomaly without simultaneous mental derangement, was looked upon as

¹Read before the American Dermatological Association, May 1, 1900.

a rarity. Sexton tries to explain this frequency by the many accidents to which insane people are subject and the rough handling by their attendants, especially pulling of the ear. I am afraid, however, he overestimates this relationship. I well remember from my early childhood a teacher whose special delight it seemed to be to pull our ears, using both his fists as if trying to tear them off, but I have never known or heard of an othematoma resulting from it. If we furthermore consider the well-known experiment of Brown-Séquard, who showed that section of the restiform bodies will produce hematoma of the ear in dogs, we may see in it at least a hint as to its frequent occurrence in the insane. Besides this, there seems to me a somewhat different and perhaps more plausible explanation for it. I have carefully searched the best text-books and archives on otology as to the possible connection of othematoma with syphilis, but have been unable to find even an allusion to it. Nor do the text-books on syphilis in the chapters devoted to specific affections of the ear make any mention of it. The only reference which I could find bearing upon this possible connection is a *Thèse de Paris*, by Bouvier, of the year 1889, entitled "*Essai sur la chondrite et Perichondrite dans la Syphilis secondaire.*" Unfortunately, I had no time to procure the original. The *Archive for Dermatology and Syphilis*, Vol. XX., 1890, gives on page 706 the following short abstract of it, which I here translate:

"Just as bone and periosteum, so may cartilage and perichondrium become early affected by syphilis. Bouvier mentions especially affections of the Eustachian tube, the trachea, the tarsal cartilages, and before all, the cartilages of the ribs and the *auricle*. Here it occurs in the form of an inflammation which develops the more easily as the organ is rich in lymphatic vessels."

The possibility of othematoma being due to perichondritis seems to receive little attention from otologists, although Fleisch mentions that certain changes in the cartilages predispose to its formation, and others have found within the fluid contents small particles of cartilage. It seems perfectly reasonable to attribute at least some of the apparently spontaneous cases, *i. e.*, those where an accident is entirely out of the question, to perichondritis of specific origin; and if we remember what an important etiological factor syphilis is in all cases of mental derangement, we may be able to explain the common occurrence of othematoma in the insane upon that basis, giving at the same time due weight to the well-known fact that traumatism so often gives rise to pathologic changes in syphilitic subjects.

My attention to this subject is due to the observation of an othematoma in a case of syphilis which in many other respects ran a some-

what irregular course and was to me of more than ordinary interest. Dr. X., about 40 years old, came to see me in April, 1898, on account of a small, insignificant, wart-like lesion on his right thumb. With its dry, flat, cribrated surface, the absence of any perceptible sclerosis or any glandular swelling in the axilla or at the elbow, it looked more like verucca necrogenica than anything else. I removed it by thorough excision and cauterization with nitric acid. Before this sore was quite healed the glands of the axilla became very much enlarged, and after consultation with several surgeons their removal was decided upon, the possibility of tuberculosis still being in the foreground. The wound healed by primary union, but early in June, exactly six weeks after the operation on the thumb, a generalized, copious roseola made its appearance. The nature of the wart-like lesion was then only too clearly established. Vigorous treatment was at once instituted; mercurial injections, inunctions, internal medication by mercury and iodine preparations were in turn employed. During the first year no further cutaneous symptoms appeared, the general lymphadenitis subsided promptly, only occasional headaches and slight soreness of the throat were complained of. In the month of March, 1899, there appeared, without any premonition and rather suddenly, an othematoma on the right auricle, of the usual form. Repeated puncturing and removal of the fluid contents, which proved to be almost a pure serum, only allowed the tumor to reappear each time and to reassume its maximum size within two or three days. Before the onset of the trouble, the patient having previously been almost free of any symptoms, no active medication was administered, and even now the specific nature of the othematoma not being fully established, it was treated only by the aforementioned local means and mechanical pressure. The obstinacy of the trouble and the urgent request of the patient made me resort to a liberal administration of iodide of potassium, and under this treatment the othematoma very promptly disappeared, never to return again and without having caused any injury to the ear, save a slight thickening of the cartilage in the affected locality.

I have no desire to adduce in this case the principle of *e juvantibus* in order to establish the specific nature of that peculiar affection. But I believe that an unbiased appreciation of the circumstances surrounding the case, and in the absence of any trauma, the most natural explanation of it is on the basis of perichondritis due to syphilis.

Of the further development of the case, it may be interesting to mention that about six months after this occurrence the patient developed distinct symptoms of Menière's disease, characterized by vertigo, buzzing in the ears, and vomiting, which occurred in the form of several

distinct attacks, but which again yielded to large doses of iodide of potassium. Recently again the patient had peculiar nervous phenomena in his left arm, characterized by numbness in the ends of the fingers. Looking back upon this case which I have now observed for two years very closely, I find that with an almost entire absence of the usual peripheral symptoms, there have all along been in the foreground of the scene distinct nervous phenomena, which perhaps had their central origin in some pathological alteration at the base of the brain. In connection with the above-mentioned experiment of Brown-Séquard, one might here also be inclined to look upon the formation of the othematoma as due to some central origin. This would be merely interesting speculation, in which I have no desire to indulge. I present the case simply for the purpose of calling the attention of otologists and syphilographers to the probable connection of othematoma with syphilis, and offer herewith an explanation for its etiology which seems quite plausible in many cases.

THE ETIOLOGY AND PATHOLOGY OF CUTANEOUS CANCER.

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FROM the oldest antiquity the clinical conception of cancer has been an ulcer, especially of the skin and glands, with exuberant growth of granulations, which, when removed, has a tendency to relapse, gradually spreading and under marantic conditions causing death. They had, therefore, no clinical or pathological characteristics to distinguish the malignancy of a growth, and the only point was that of the results of the disease. From the tendency to relapse after having been removed, came the fear of touching these growths, and they receive the name of *noli me tangere*. In Greek the tumors were called *zapzwpoua* on account of the resemblance to the crab in its ashy-gray color and in grasping with its pincers anything it comes in contact with. The cause of these tumors was easily found. Galenus maintained it to be the result of warmed-up bile, rushed to the affected locality.

The old ideas of cancer were maintained by the surgeons until recently, and the only distinction was in cancer occultus (*scirrhus*) and cancer apertus, when ulceration had taken place.

The epoch of the study of cancer began with Bichat, Johannes, Muller, and Rokitansky. They have brought to light the histologic conditions of the pathological tissues, and have established the nature of the various tissues composing the tumors, and in consequence the study of the histopathological anatomy of cancer has changed its old clinical conception.

Lebert¹ and Hannover² believed that they had found the cancerous cell peculiar to these tumors, but their cancerous cell was nothing else than an epithelial cell in proliferation which could not be differentiated from a physiological cell, neither through its morphologic properties nor through its endogenic proliferation, nor through its pigment granules, which at times are contained therein.

Rokitansky³ took quite a different view of the histopathological structure of carcinoma, and he showed it to consist of a true heteroplasia. Nucleated cells with intercellular substance, imbedded in connective tissue, formed the cancerous structure, and from the other predominating tissues, he made several varieties of cancer. From the works of Virchow⁴ it has been shown that new growths, resulting from an alveolar stroma containing masses of epitheloid cells, were of cancerous nature. Tumors of malignant nature containing cells not of an epithelial nature, infiltrating in an irregular way the strata of the connective tissues, were separated and called sarcoma.

Thiersch⁵ maintained that the epithelial nature of the cell infiltration constituted the entity of the carcinoma. The established origin of cancer from the preformed epithelium in consequence of pathological production of epithelial cells could not come otherwise than from the pre-existing epithelium of the rete or of the glands. This statement was in opposition to the opinion expressed by Virchow and Foerster, who considered the production of the epithelial masses, as the result of proliferation of the corpuscles of the connective tissues, independent of the pre-existing epithelium of the corpus mucosum and of the glands. The views of Thiersch have been generally accepted. Thiersch, however, had neglected the alveolar structure, on which Rokitansky had previously insisted so much, limiting the cancerous nature to the epithelial infiltration. As a consequence only the epithelial cancer could be a carcinoma, and also some other growths with a proliferation of the epithelial cells have to be classified with carcinoma.

The true stand in the question was taken by Billroth,⁶ who considered as carcinoma only those new growths which result from epithelial production together with an infiltration in the connective tissue. It is quite natural that the masses of epithelial cells crowding themselves into the midst of the connective tissues, must produce an irritation

which causes a proliferation of the connective tissue corpuscles. These corpuscles, which have the task of providing for the nutrition of the connective tissue fibers, are greatly developed in the embryonic stage, as I demonstrated in 1878.⁷ In adult life they are very much smaller, but on account of some inflammatory exudation they return to their embryonic stage, increasing in their volume, their nuclei proliferate, they increase in quantity, producing hypertrophy of the connective tissues, which we find so marked in chronic dermatitis, until they reach the form of papillary growths. In carcinoma in the presence of sharp epithelial cells crowding down into the midst of the delicate structure of the connective tissue fibers, the connective tissue corpuscles cannot remain indifferent to such an irritation and they must take their part in the proliferation. In this way we find that the carcinoma is a malignant production consisting of masses of epithelial cells imbedded in a connective tissue structure, inflamed and infiltrated.

In regard to the malignancy of carcinoma, it consists of progressive proliferation of its elements, an infiltration of epithelial cells into the normal tissues, the gradual disappearing of the normal tissues, the tendency to ulceration, the relapse after its removal, and a progressive spreading of the new growths in the glands and in the lymphatic domains, sometimes vegetation and progressive general marasmus.

In the ulcer of the cutis, the characters of malignancy often make their appearance late and a small warty production, which had never caused any discomfort with the exception of an itching sensation, after several years is changed into an ugly looking sore with destructive qualities. For this reason Lebert did not want to consider these new growths as true cancers, and he called them cancroïds or pseudocancers, and Hannover gave them the name of epithelioma. But in spite of its simulated benignancy, it belongs to the class of the malignant growths on account of its persistent ulceration, the tendency to recur after removal, the infection which it produces in the tissues of the adjacent parts of the skin, and on account of the reproduction in the lymph glands, communicating with the lymphatic vessels of the affected part. The study of epithelioma reveals the presence of epithelial cells in tissues which never have them in a normal condition.

Thiersch distinguished two varieties of epithelial cancers of the skin, from a topographical standpoint, one superficial—*flanche Hautkrebs*; the other deep seated—*tiegreifende Hautkrebs*. This classification has been accepted in the schools and we find in many books the epithelial cancer is distinguished as, first, superficial, flat, or discoid; second, deep seated or nodular; third, papillary.

Unna⁸ has strenuously objected to this distinction of the cutaneous

cancers, believing it to be not only unnecessary but also dangerous on account of the confusion of the different forms of epithelial cancers. He finds that some authors have considered forms of cancer of a destructive nature, such as *ulcera rodentia*, as superficial and benignant. Any cancer, malignant in nature, tending to metastasis, producing cachexia, is deeply seated, and yet every cancer has had an innocent local period in which it was more or less superficial or flat.

Unna divides carcinoma of the skin into:

First, *vegetirende*;

Second, *walzige*, and

Third, *alveolar*, to which he adds,

Fourth, *carcinomatous infiltration of the lymphatics*.

From my observations I would submit the classification as follows:

First, *lobular*;

Second, *lenticular*;

Third, *papillomatous*.

According to this distinction I will give sketches of the principle characteristics of the pathological structure of the cancers.

1. *Lobular*. This carcinoma shows the origin of the epithelial cells from the epidermis (*corpus mucosum*), and from the glandular elements of the skin. The epithelial cells, disposed in stratified layers, penetrate into the connective tissues of the derma in different forms. The boundary between the epithelial line and the connective tissues is passed, and masses of epithelium in cylindrical form penetrate into the connective tissues. In my specimens I find that the proliferation of the epithelial masses is also found in the glands, which are infiltrated. It is a difficult matter to decide on the origin of carcinoma from the sebaceous glands, because the epithelial cells forming the new growth cause the destruction of the gland itself and very little can be seen of them. Indeed, there is no difference clinically nor pathologically between a carcinoma originating from the *corpus mucosum* or from the glands, both giving the same lobular appearance. All that usually remains of the sebaceous glands is the acinous form, and in the same way when the sweat glands are affected there remains the tubular disposition of the infiltrating masses, which recalls the peculiar disposition of the coils of those glands.

Fig. 1 (Bausch and Lomb, 314) shows a clear picture of this carcinoma. The epidermis is deprived of its horny layer, and there remains only a part of the *stratum lucidum*. The mucous layer is greatly increased, the epithelial cells are enlarged and contain large nuclei. Masses of these cells in the form of clubs are pushing down between the papillæ, infiltrating the interpapillary spaces. Lobes of infiltrating

epithelial masses are found in the places of the sebaceous glands, independent of the corpus mucosum, forming nests in the stroma of the derma, round or irregular in shape.

This is the kind of carcinoma which Unna calls einfach walzige Form.

The specimen is from a carcinoma of the temporal region, which lasted for nearly three years.

FIG. 1.



The epithelial masses, in place of having the round appearance of a club, may be more pointed, resembling the variety called styloid. According to Unna, this pointed appearance of the epithelial masses must be the result of the connective tissues tightening themselves around and offering a resistance to the intrusion of the epithelial masses, and for this reason it is not so malignant and only at a late period produces infection.

At certain points some of the infiltrating cells have undergone some degree of degeneration. The blood-vessels are free from epithelial in-

filtration. The resulting ulceration of this kind of epithelioma is sometimes so superficial as to involve only the papillary layer of the derma. It heals in the center and spreads along its periphery. In some cases, while healing up in different parts, it forms a deep ulcer around the periphery. The bottom of the ulcer, then is covered with abundant round rose-red, large and succulent granulations, with hardened and thickened edges. In some places the ulcer goes so deeply that it shows scales of necrotic bone. The granulations which cover the bottom bleed at any slight touch and show deep impressions. They have, however, no tendency to form papillary excrescences as in other forms of carcinoma. In the specimen of this *ulcus rodens* we find the inflammatory process more advanced, which is revealed by many round inflammatory cells infiltrating the connective tissues. Foci of degenerated cells can be seen in the midst of the infiltrating cells. The papillæ are disfigured under the mass of epithelial cells, which are crowding them up and filling all the spaces. In the lower layers of the derma, the infiltration seems to be due rather to the inflammatory cells than to the infiltration of the epithelial cells. The fusiform cells are increased and swollen, and we can see a kind of new growth in the fibrillary tissue.

The long-standing ulcer without much discharge is a characteristic of this disease. The granulations are covered by epithelium but they are deprived of the horny layer. The stratum spinosum with the layer of epithelial cells is well developed, and the epithelial masses from it enter into the connective tissue forming the stroma of the cancer. Sometimes the ulcer is covered with epithelial masses simulating a kind of whitish superficial cicatricial tissue. From this covering of epithelial masses, and from this resistance of the connective tissue can be explained the absence of pain, which is remarkable in rodent ulcers. There comes, however, the time when the carcinoma loses this peculiar consistency, becomes softer, the collagenous substance and the fusiform cells disappear, only nests of plasma cells remaining. The lymphatic spaces become enlarged, the connective tissue takes on a succulent appearance, becomes edematous, the nests of epithelial cells have a tendency to liquefy, and the whole mass takes the form of a common carcinoma.

In the same class of lobular carcinomata we must include those proceeding from the glands of the skin. The sebaceous glands may be hypertrophied, maintain their position at both sides of the hair follicles and become filled up with large epithelial cells. The glands still maintain their acinous form. The connective tissues are crowding around the glands. Fig. 2 shows the sweat glands hypertrophied and infil-

trated in their whole extension with epithelial cells forming the cancerous stroma. The epithelial cells are contained in nests in the interior of the glands, and no free infiltrating cells are found in the surrounding tissues. This explains the possibility of the carcinoma lasting for many years without showing any infection.

In consequence of the affection of the glands, this carcinoma grows in lumps peripherally, giving to the tumor an acinous appearance.

FIG. 2.



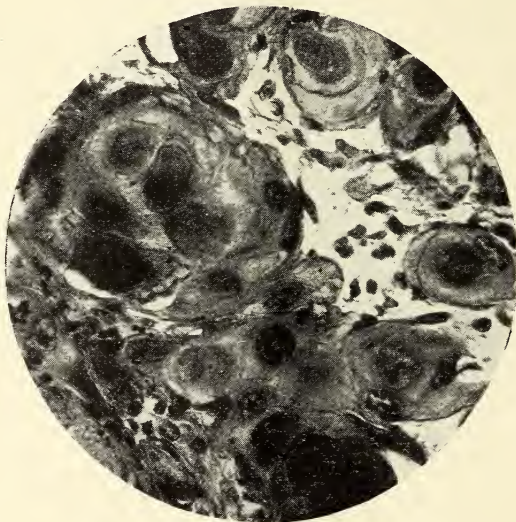
Malignant in its nature, it is slow in its ravages. It usually affects the nose, the cheeks, and the forehead.

The second form is the *lenticular carcinoma*, which corresponds to the nodular or deep-seated cancer. In some cases the affection may be the result of the first variety, or it begins directly as such. At first it appears as a deep, movable papule imbedded in the tissues of the skin.

It gradually grows to a tumor the size of a nut, hard, firm, elastic to the touch, with indurated prolongations in the subcutaneous tissue. The skin is elevated, glossy, pinkish in color and covered with dilated capillaries. After a certain time ulceration takes place and a deeply undermined ulcer results, which is surrounded by numerous other waxy nodules of the same nature.

This kind of skin carcinoma has a rapid course, and in a few years the lymph glands are involved. It shows marked alveolar structure, which is especially apparent in the deeper layers of the derma. The papillæ do not show many alterations, and the infiltration found in them is mostly due to inflammatory cells. The blood-vessels are greatly

FIG. 3.



enlarged. The epithelial cells are bound up in nests, forming small alveoli surrounded with collagenous bundles.

The swelling of the epithelial nest causes a kind of rarefaction in the stroma of the tumor. The papillæ are well preserved, and the superficial layer of the derma shows very little infiltration of the epithelial cells, the most of the infiltration resulting from inflammatory cells. The deeper portion of the derma shows a thick infiltration of large epithelial cells in a reticular way. Although with a small power there can easily be seen a small alveolar structure, with a high power (Fig. 3), it is perfectly clear. Each alveolus contains large nucleated epithelial cells crowded together. It corresponds to the description of the form called by Unna small alveolar cancer,

where the alveoli contain no more than three or four cells of the glandular type. The blood-vessels are enlarged and the epithelium of the intima shows great proliferation.

The third class is the proliferating carcinoma or vegetirende carcinoma (Unna), or papillary carcinoma. It is of the most infectious nature. In a short time it is reproduced in the lymphatic glands and causes metastasis. In sections from a cauliflower growth of the penis, the epidermis appears deprived of its horny layer, of which only shreds remain. The corpus mucosum is hypertrophied in a large mass covering a quantity of elongated papillæ. It is still a question whether these papillæ are the old papillæ of the skin or newly developed papillæ. Unna is of the opinion that these small, elongated papillæ have nothing to do with the old normal papillæ of the derma. In my specimens it is clear that these papillæ have nothing to do with the normal papillæ, as it is shown from the layers of the superficial derma there spring up three or more papillæ with branches like trees, showing one to be the stem, from which others come off at different degrees of development. The papillæ are made up of connective tissue fibers, and the connective tissue corpuscles are somewhat enlarged, but no epithelial infiltrating cells could be found in their midst, so that we can consider them as simple connective tissue growths without cancerous stroma. In the larger papillæ blood-vessels are seen in longitudinal arrangement, running into the papillæ. The epithelium is enormously increased on the top and in the interpapillary spaces; the epithelial cells, largely increased in size, are crowded out of proportion. The cells which form the basal stratum are irregularly disposed. They do not maintain their cylindrical appearance but are epithelial masses of different shapes. The connective tissue of the derma is greatly hypertrophied and many leucocytes are found infiltrating its meshes, showing a close relation to the lymphatic spaces. The blood-vessels are perceptible in great numbers, much enlarged and surrounded by infiltration of epithelial cells. I must remark that around the blood-vessels we find the areolar stroma of this cancer. The cancerous infiltration is not so abundant but its malignancy is superior to any other kind of cancer. I think that the luxurious growth of the papillæ is only the result of hypertrophy of the connective tissue, through the irritation, and the abundance of the vascularity, which causes hypernutrition of these tissues. The papillary growth is not at all characteristic of the carcinoma, and the reproductions of the carcinoma from a papillary one are of the nodular variety. For these reasons the papillary cancer can be considered only as a simple variety of the nodular or deep-seated carcinoma.

In the cells of the carcinoma there is a peculiar morbidity. They

change places easily, as has already been observed by Waldeyer, and the cells around the nests show different shapes. This condition makes easy the spreading of these cells through the lymphatic spaces and the lymphatic vessels. The most common degeneration, which the epithelial cells undergo in the alveoli, is the hyaline degeneration, although the keratotic and the calcifying degeneration may be found, but very rarely.

Indeed, a great difference exists between carcinomata, especially in reference to the prognosis and treatment. In the first variety the derma is affected in its superficial layers, the masses of the epithelial cells proceed from the stratum spinosum of the epidermis, forcing their way between the papillæ. In the second we find the superficial layer of the derma not much affected, and the infiltration of the epithelial cells is found mostly in the deepest layers of the corium. The blood-vessels are enlarged and a number of epithelial cells proceed from the intima of those vessels. In the lenticular carcinoma we sometimes find the infiltrating cells in the lymph spaces, without any barrier, and so they are at liberty to proliferate and carry the infection in the lymphatics. With a high power, however, we find that the large epithelial cells furnished with enormous proliferating power, are also surrounded by some mast cells and a few plasma cells, which constitute their nests.

From the above consideration we can infer that although both kinds of carcinoma are of malignant nature, yet the first is less infectious than the second, which in a short time reproduces along the lymphatic paths, numerous carcinomatous nodules of the surrounding skin, soon causes cachexia, and leads the patient to a fatal end.

The etiology of carcinoma is the part which to-day is the subject of the most careful study. Roswell Park of Buffalo and Finkelnburg of Germany have brought forward statistics tending to show that the mortality rate of carcinoma is increasing. In the same way, they have tried to show an increased frequency of the so-called endemic occurrence of carcinoma. Behla, Behrens, Pfeiffer, Anudet, Schuchardt, and others have referred to striking examples of small centers in villages, parts and streets of the cities and in single houses. Finkelnburg states that in Prusia one death from carcinoma occurs to over forty deaths from other causes, and Behla⁹ shows the proportion of one to ten. I cannot say the same for Cincinnati. In 1898, in the City Hospital, among sixty-five deaths, two from carcinoma were registered, giving a rate of one to thirty. Anyhow, such a large percentage of deaths from carcinoma has called the attention of the public in general to this disease and has led to the establishment of laboratories for the investiga-

tion of malignant tumors. This has been done in Buffalo under the direction of Roswell Park.

Returning to the etiology of carcinoma, the theory of parasitic elements a few years ago seemed to have enlightened the subject, and protozoa were claimed to be the cause of cancer. Indeed, after the publication of the studies of Darier¹⁰ and Wickham on Paget's disease, it was hoped that the presence of the coccidia would prove the proximal cause of cancer. The round bodies, however, were found in other affections and their peculiarity and specificity soon disappeared. Unna and Boeck¹¹ established that the origin of these bodies was the result of the epithelial cells in hyaline degeneration.

This subject has been largely approached from the side of the essential vitality of the epithelial cells and their reaction under various irritants. Hektoen in the reviews of this subject in "Progressive Medicine," referred to the experiments of Dr. Lungren, who could preserve pieces of human skin in sterile ascitic fluid for months, the cells of the tissue retaining their vitality. Pieces of skin kept in the same sterile fluid for a month, were successfully transplanted, and it could be found that a proliferation of epithelial cells had occurred. He writes that from a margin of a tissue defect, huge epithelial protoplasmic or plasmodal masses move in a sliding manner over the marked surface, inclosing and removing crusts and any other obstacle. A regenerating epithelium readily removes such substances as cartilage when placed in its way. Below the protoplasmic layer, epithelial cells wander in from the margins of the defect and often grow down into the connective tissue, apparently checking the growth of the latter. This process is closely allied to the changes which occur in carcinoma. Loeb believes that the wandering of the cells is in best response to stereotropism and forms a determining factor in inducing mitosis in the remaining cells. The action of the epithelial elements to arouse at a distance the germinal activity of the epithelial cells constitutes the essence of carcinoma.

These observations are somewhat in relation with the clinical facts, and with physiopathological studies. Indeed, we often see that cancer is developed in parts which have been exposed to continuous irritation. The cancer of the lips and of the tongue in immoderate smokers shows that this epithelial proliferation in the tissues is preceded by a constant irritation. Every patient with cancer of the skin tells us that he had a small wart, or mole, which he was in the habit of picking with his finger-nails and that this caused the ulcer.

G. Shattock¹⁵ is of the opinion that the displacement of normal epithelium into a lymph space or lymph cavity is sufficient to bring about

the growth of a carcinoma. An experiment was made by Lambert Lack,¹⁰ by laying open the ovaries of a rabbit, scraping the surface, and allowing the milky juice containing free epithelial cells to diffuse into the peritoneal cavity. One year later the rabbit was found to be sick, and after two months was killed. The autopsy revealed the abdominal cavity studded with carcinomatous foci. These results speak for the mechanical origin of carcinoma.

Epithelioma has often been seen on lupus. Cases of this kind have been referred to by Bidault, Raymond, Hutchinson, Kaposi, and others. The question is whether the cancer is developed in the cicatrix or in the lupus ulceration. Hutchinson¹³ gives a fine illustration of lupus cancer in a woman who had suffered from lupus for about thirty years, and on the scar of the lupus on her upper lip a malignant growth had taken place. It seems that the scars are often the starting point of cutaneous cancer as the *pars minoris resistentiæ*. The course of epithelioma in the scars is slower than in the normal skin, and the ulcerative forms predominate over the vegetating papillary forms.

For the mechanical origin of cutaneous cancer we find another argument in some carcinomatous growths which have been encountered in patients affected with psoriasis. It is not yet clear whether they are a sequel of psoriasis or the result of large doses of arsenic. Hutchinson gives the figure of a cancer in the palm of the hand, which he calls "arsenic cancer." The patient has been subject to psoriasis for many years and had taken large doses of arsenic. Dr. Hartzell¹⁴ referred to a case of epithelioma affecting the heel of the left foot, following psoriasis and probably the arsenical treatment. In these cases the proliferating power of the epithelial cells would be a sufficient explanation for the production of the epithelial cancer.

Another important question is connected with this subject, whether syphilis has any influence in the production of the cutaneous cancers. Some syphilitic ulcerations, especially of the mucous membranes of the mouth, can be easily mistaken for epithelioma. Cancer can develop on a syphilitic ulcerative process, or on a scar of a syphilitic ulceration, for the reasons already expressed. In this regard Besnier refers to a paper of F. H. Ozenne: "*Du cancer chez les Syphilitiques, de l'hybridité cancéro-syphilitique de la cavité buccale en particulier*," *Thèse de Paris*, 1884. He believes in the association of cancer and syphilis forming a mixed condition, a well-defined pathologic hybridity. The antisiphilitic treatment may improve this condition for a short time, but later the cancer continues its destructive course. I have found it rather difficult to establish the exact diagnosis from the clinical symptoms and only the anatomopathological study is able to furnish the differential

diagnosis. Syphilis is the cause of irritation, creates *partes minoris resistentiae* which can be later affected by cancer. The diseases have nothing in common, but syphilis may cause the production of cancer on account of its long-standing ulcerative forms.

Recently, in consequence of the works of the Italian investigators, Sanfelice,¹⁷ Roncali, and others, on the blastomycetic elements in cancer, the question of its etiology has somewhat changed and the parasitic theory is coming again to the front. In England Plimmer has isolated a yeast-like organism from a rapidly growing carcinoma of the breast, and this organism is capable of producing endothelial tumors when injected into the veins of animals. Plimmer claims that many of the intercellular bodies in carcinoma are in reality organisms. But we cannot consider all those hyaline spheres in carcinoma as organisms, when we find nearly the same appearance in all pathologic tissues.

We are to-day in a position to state that from tumors have been isolated organisms which, inoculated into animals, produce a granulomatous process. The nature of these tumors, however, has not been clearly defined, as whether they are true carcinomata with typical metastases, or only productions of a blastomycetic dermatitis.

These micro-organisms of cancer have also been cultivated, and Keith W. Monsarrat¹⁸ communicated to the Royal Society on the "Morphology of the Blastomycetes in Carcinomata." Growths were obtained on glucose agar. The microscopical cultural characters were the same as were obtained by Sanfelice and Plimmer. The organisms were spherical capsulated and multiplied by budding. They were inoculated into animals, but no reproduction of carcinoma so far has been obtained.

The proliferating power of the epithelial cells, which we consider to constitute the carcinoma, is more an effect than a cause. These cells must have an impulse, which compels them to proliferate and act as parasites in malignant tumors.

From the study of the localities where carcinoma appears very frequently, Behla finds that the facts point to carcinoma being a parasitic disease, whose germs in certain localities are conveyed by water contaminated with vegetable plants in putrefaction. In my cases of epithelial carcinoma nearly all have occurred in farmers and gardeners. The carcinoma was nearly always accompanied by a kind of xerodermic condition of the skin. In the vicinity of the carcinoma I have often seen red patches of the skin looking like eczema; at other times patches of hard callous xerotic skin, and the skin showed hard, flattened warts. This shows that the skin, before showing the epithelioma, is already affected; there is already some local infectious elements

which irritate the skin and gradually cause the proliferation of the epithelial cells, which will later produce the dreaded carcinoma.

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THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

SECTION ON URINARY SURGERY.

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Report on the Ultimate Results of Operative Treatment for Prostatic Hypertrophy.—PROFESSOR VON FRISCH.—Of the different radical operative measures for prostatic hypertrophy it is only those which attack directly the obstacle preventing free flow of the urine which are able to promise durable success. Such as supra-pubic and perineal prostatectomy, lateral prostatectomy and galvano-caustic incision according to the Bottini method.

The older procedures of Mercier and others have been abandoned as too dangerous.

The durable effect of an operation, other things being equal, is the more sure of success, the better the elimination of the obstacle, and the freer the conduit remains after cicatrization.

It is evident that a procedure controlled by the eye, as in the different methods of prostatectomy, better satisfies these conditions; but these operations should be regarded as grave and too dangerous, since the advanced age and the feebleness so frequent with these patients are not favorable conditions. The operation of Bottini seems to be less dangerous, though it is not so harmless as certain authors believe.

The prostatectomies, even as the galvano-caustic incision, sometimes furnish results which are irreproachable, and very satisfactory as to permanency. Even when the bladder is distended and its muscular wall seems to have lost its contractility, the final result may be perfect, when the obstacle has been completely removed.

Still there does not exist to-day a precise line of conduct which can assure us of a durable success through operation. Even if we endeavor to remove by prostatectomy as completely as possible those portions of the prostate which form the obstacle, the mechanical conditions which give rise to the obstruction are so variable in the different cases that no one of the procedures in usage permits us always to discover them in their totality. It is the same with the Bottini operation, in which we operate in the dark, and where in spite of the use of the cystoscope, we cannot often find the true cause of retention of urine. This is the cause of failure of these operations in a certain number of cases.

The durable effect of all these operations may become illusory later by the formation of hard cicatrices and hypertrophies which form a new obstacle, or even by the progress of the hypertrophy of the gland and the formation of new swellings.

DR. LEGUEU.—Against prostatic hypertrophy, for treating its complications or preventing its evolution, there are 3 sorts of operations: 1st *Operation upon the testes*, 2nd *Cystostomy*, 3rd *Prostatectomy*.

1. *Operations on the testes* have for an object the causing of atrophy of the prostate in virtue of the physiological relations between the testes and prostate.

By resection of the vas deferens or of the vessels and nerves of the cord attempt has been made to replace castration as an operation, but these latter have been found to be far from possessing the same value as castration.

The ultimate results of castration have been such as to prove inferior to those which the earlier observations, too short and too incomplete, led us to hope. After castration atrophy of the prostate has proved wanting; a diminution merely in the volume of the gland has been noted. Still these patients experience an amelioration in no way proportionate to the diminution in the volume of the prostate. This amelioration is characterized by the disappearance of the congestive attacks and by a return of bladder contractility, by diminution of the residual urine, by diminished frequency of urination, or catheterization. But we have to deal with an amelioration only and not a true cure. And when we compare the ultimate results of castration with results by other methods the benefit is not in proportion to the sacrifice.

2. *Cystostomy* has for its object the creation of a meatus above the pubis, to drain the urine and permit spontaneous urination.

Practised for the ordinary accidents, as a means of drainage cystostomy is an excellent operation, a resource when the catheter *à demeure* fails.

As a remedy, however, for difficulty of urination, for local accidents, cystostomy only substitutes one infirmity for another, for with the supra-pubic meatus, continence can be obtained only exceptionally, incontinence is the rule, and yet the bladder is unable to empty itself. Therefore cystostomy should be an exceptional operation.

3. *Direct intervention* upon the prostate appears more and more to be the operation of the future for prostatic hypertrophy. Made up of an adenomatous and fibrous hyperplasia from which all the vesical troubles are derived secondarily, removal would seem to be justifiable, a procedure utilized every day in the case of other organs.

Among these interventions, *the operation of Bottini*, which is only an electrolytic prostatotomy, cannot be judged by its ultimate results because of insufficient data. On the other hand the operation is blind, the numerous recurrences noted in some cases bear testimony to the rapidity with which the small breach created by the galvano-cautery is able to close.

Partial prostatectomy gives excellent results in partial hypertrophies, pedunculated or not, which spring from side of the *bas-fond*. The amelioration is characterized by the return of bladder contractility and in some cases equal almost to a cure.

But partial prostatectomy cannot avail in total hypertrophies, against total stenosis of the entire prostatic canal.

Total prostatectomy, on the contrary, only can remedy all the inconveniences of hypertrophy. The facts do not to-day permit us to judge its value; but they already suffice to enable us to look with confidence to the future, and to consider perineal prostatectomy, practised early, before the period of serious accidents, as the operation of choice in prostatic hypertrophy.

DR. POUSSON.—The speaker was in complete accord with the remarks of Dr. Legueu, and believed that the indirect operations had no other result than to prevent the congestive attacks, origin of accidents and of frequent complications, it is true in prostatics but the methodical employment of the catheter *à demeure* may equally prevent and at less cost.

Of the indirect operations, vasectomy, angio-neurectomy present but little dan-

ger for the future of those who undergo them; orchidectomy, single or double, in suppressing the internal secretion, unquestionably diminishes the organic resistance. Having no faith in the arguments of the surgeons who devised castration, he had never done it, but he had done operations upon the cord a sufficient number of times to convince himself that their results were never curative and were not superior to those furnished by the catheter *à demeure*.

Suprapubic cystotomy in his judgment is an operation very rarely, if ever, indicated in prostatics. It does not combat acute infection any better than does the catheter *à demeure*. As to the chronic infections resulting from stagnation of the urine in the *bas-fond*, the position of the suprapubic outlet does not permit emptying of the bladder nor cleansing nor rendering aseptic.

It is the existence of this *bas-fond* and its position with reference to the union of urethra and bladder which constitutes for the speaker the indications for operations. It exists, of course, in all, but whereas in some the absence of a prostatic projection at the lower lip of the bladder neck permits, by means of certain measures, the evacuation of the urine by the catheter and its thorough cleansing, in others, the projection of the lobes of the prostate creates a sinus below the neck, which catheterization can never completely evacuate, and lavage unable to attack effectually. And in which the urine stagnates and becomes altered close to where the ureters open. In the former class of cases catheterization suffices to the exclusion of all other measures; in the latter, prostatectomy only is capable of assuring disinfection of this stagnant and decomposing cesspool. The bladder open above the pubis and the neck well lighted with an electric lamp attached to a retractor, the lobes of the prostate are excised according to circumstances, with aid of bistoury, scissors or cutting forceps without fear of hemorrhage. Formerly he always drained by the hypogastrium, now he most frequently closes the bladder after having placed a Pezzer catheter in the urethra.

In twenty operations there were five deaths in patients very old and profoundly infected. Of the fifteen survivors, six have regained power to completely empty the bladder; in one this power was temporary, in one it was only partial; all these were relatively young men, the dysuria was not of long standing, the bladder was not too much altered by infection. In all the others he caused cessation of the cystitis and the infection.

DR. HARMONIC.—The conclusion of the speaker was that for prostatic hypertrophy which proved rebellious to ordinary treatment castration alone was the operation which gave good results.

Cystostomy should be placed next, but it was an inconvenience causing an infirmity which patients accepted with difficulty.

As to vasectomy the results were illusory for the most part and only appeared to exercise a certain action upon the congestive element of the prostate, without modifying the hypertrophy.

DR. HARRISON had practised during the last few years a large number of operations upon the prostate in these cases of retention of urine. He limited his remarks to the operation of vasectomy, by section or torsion, which he had been the first to make, and he was of the opinion that vasectomy was a good means of preventing the continuation of the hypertrophy and that this operation did great service when the sexual and urinary functions were seriously attacked. In the healthy adult, ligation of the vas produced an atrophy of the secreting portion of the testis and at the same time a diminution of the prostate, but does not abolish sexual desire as is the case after castration.

He had recently published in the *Lancet* observations upon patients who had lost sexual and urinary power from prostatic hypertrophy and in whom catheterization would have been necessary, but after double ligation of the *vasa deferentia* these patients had continued to urinate without artificial aid, and the sexual function had not suffered. Still the objection might be urged that in these cases of operation we cannot so accurately state that they would have been obliged to enter catheter life.

In private practice he had done more than 100 vasectomies in old men over 60, who had entered catheter life; as these had had such complications as difficult or painful or frequent catheterization, an operation tending to reduce the prostate was called for; the results of operations were various. Some experienced but little relief, others a great deal. On the whole, however, in the great majority there was distinct and durable relief.

It is necessary at the outset to set apart the cases of fibrous degeneration of the prostate which answer better to supra-pubic or perineal prostatectomy. The variable results met with proceeds from the effects upon the bladder of a chronic retention which precedes every case of prostatic hypertrophy.

He has seen cases where the bladder was so profoundly affected that even after diminution of the hypertrophy, even after atrophy of the prostate the bladder was unable to regain its tonicity and normal function.

In conclusion he repeated that vasectomy was an operation without danger of any sort. It differs totally from castration, which he can only countenance when the testes themselves are sufficiently affected to call for removal.

The object of his communication was to prove that the obliteration of the vas should in many cases precede catheterization. If this operation were practiced more often, many patients would finish their span of life urinating in the natural manner.

Vasectomy and the Bottini Operation.—DR. NICOLICH.

Vasectomy.—From October, 1895, to December 1899, he had performed thirty-five vasectomies with five cures. He considers as cured the prostatic who no longer needs the catheter, who urinates easily, has diminution of the volume of the prostate, and has no longer residual urine. Care must be taken in pronouncing cure, even though the patient may go a long time without needing the catheter; he has seen a patient who remained very well for three years when he had a new attack of complete retention, especially then should we distrust cures in patients who come to operation after a first attack of acute retention.

He groups his cases operated upon by vasectomy under three heads:

1. First attack of complete retention supervening after a period of dysuria of a longer or shorter duration;
2. Chronic, incomplete retention with or without distension of the bladder, which, at varying intervals, becomes complete;
3. Complete retention.

Operation upon six patients of the first group with two recoveries; twenty-eight of the second with three recoveries and one of the third without success.

He believes that he can affirm that vasectomy is an operation which may produce amelioration in some cases and may though in a small proportion, 14 per cent., cause elimination in the volume of the gland, and cessation of almost all the phenomena caused by the malady.

Bottini Operation.—He has operated upon twenty-nine cases by the Bottini

method; of these, four were in their first attack of complete retention, all recovered and were cured; fourteen had incomplete retentions, at intervals becoming complete; ten were cured, one no improvement, three died; eleven had complete retentions, eight were cured, one unimproved, and two died. Thus in twenty-nine cases, twenty-two recoveries, two unimproved, five deaths.

His experience based upon long and careful observation leads him to admit some value to vasectomy; but the Bottini operation has given him such good results that he is led to prefer it in all cases. When a patient comes to catheter life the operation is indicated in order to try to prevent the infection which sooner or later comes with use of the catheter; even if infection is already established the operation is a very useful one. From his own experience and what he has read of that of others, he knows of no contra-indication to the operation, with which we may hope to bring relief even in cases which seem little short of desperate.

The dangers of the operation are not so great as we would think and when he recalls the mortality due to castration he asks why such an operation, almost useless, should be so often performed, and the Bottini operation condemned, an operation, which of all which have been proposed for this malady is the surest and the least dangerous.

The interval since the operation in his cases was from two to twenty-three months.

DR. CARLIER in his report of 1896 on treatment of hypertrophy of the prostate by operations on the cord and testis he was very doubtful as to the future of castration and expressed doubts as to the value of vasectomy. His own results and those obtained by reading have not changed his opinion. Section of the vas seems to have no action upon hypertrophy of the prostate, it reduces merely to a certain extent the congestion.

As to castration he has not made use of it; this surgical measure, repugnant alike to patient and surgeon, appears to him to give results in young prostatics only and that only at the beginning of their trouble, and these cases are the very ones who are less likely to accept castration.

Angio-neurectomy he has done, in six cases he has made complete section of all the elements of the cord. In none of these did gangrene of the testes occur, this organ even has not undergone the amount of atrophy he had expected. As to the influence exercised over the urinary trouble it was manifest in two cases only, patients 48 and 50 years old respectively.

In three cases cystostomy with permanent drainage put a stop to the accidents of fever, etc., against which he had striven in vain with the catheter *à demeure*.

It seems to him that the operation upon the testes and cord are means merely of arrest and not cure of this malady. For this reason they may be commendable at the beginning of prostatic hypertrophy.

He has had no experience with the Bottini operation. This galvano-caustic section of the prostatic bar, in a medium often septic inspires him with lively fears and the statistics of Dr. Nicolich have not been able to reassure him.

As to prostectomy, its employment is too recent for us to rely upon its results. It seems, however, to him to be the operation of the future, for prostatic hypertrophy, but here too the prostatectomy as in the other operations must be practiced early if it is to be aseptic, not too murderous, and more certain in its results. Now it is always difficult for the surgeon to induce acceptance of an operation of this nature on the part of a patient thus early in the case of a malady

which taken at its beginning may remain very supportable for a long time by the judicious employment of hygiene, catheter and operations on the cord and testicle, operations non-curative to be sure, still at least inoffensive.

DR. GIORDANO has only operated in those prostatitis in whom catheterization patiently repeated, or the catheter *à demeure* aided by syphonage no longer gave good results.

He has had two perineal prostatectomies, one improved, one without result, one supra-pubic prostatectomy with cure. These bloody operations seem to him too grave for the proportionate results.

Ignipuncture with the Paquelin of the lateral lobes through the rectum as devised by Negretto gave in two cases no result, in one slight improvement and one good result. Simple cauterization with the galvano-cautery of Bottini gave one good and one negative result.

Division by the Bottini method gave three improved, three negative, and nine cures, which cover a period of seven months to two years. After some months, several of those cured have had retention due to copious drinking, which has yielded generally to catheterization. In two of these cases of recurrence a second Bottini operation was necessary before they could urinate spontaneously.

From his experience he believes the best method of operation for prostatic hypertrophy at the present time is by the Bottini method. The immediate results in general are good, but we may look for a recurrence of an attack of retention on the average in about a year, but generally these are susceptible of repetitions of the galvano-cautery operation.

DR. CHEVALIER.—The speaker is still convinced that radical operations for prostatic hypertrophy should be operations in exceptional cases, and that the treatment by rational catheterization is still the treatment of choice. As a result of long standing he again reports the condition of the case on whom he operated in April, 1896, by castration, and already reported at the meeting of the Association of Genito-Urinary Surgery in '96, '97, '98, '99, a patient who had previously had vasectomy and cystostomy, etc. The patient left the Necker hospital perfectly cured. His case is still maintained and the patient reports regularly.

DR. LOUMEAU gave in his practice relating to operations for prostatic hypertrophy.

He has done castration in five cases of chronic complete retention, with prostate very hard, making catheterization laborious if not impossible. In three cases the retention completely disappeared, in two it was changed into partial retention with residual urine, varying from 60-80 grammes, easy to evacuate with the catheter. In four of these cases there was reduction in size and consistence of the prostate. The fifth case developed cancer two months after the operation, and died three months later, with great suffering. Supra-pubic cystotomy was done, but with slight tendency to amelioration of the suffering.

In fifty-six cases he had done bilateral resection of the vas. The only result he could determine as of benefit to the patient was the protection given against the orchitis due to catheterization.

Supra-pubic cystostomy, which he believes is only very exceptionally indicated for this trouble, he had only done once. This was an old physician with a very large, ligneous prostate producing complete retention, which could be relieved only by a very small catheter. Patient did not care for castration, preferring to keep his fistula. Death four months later from broncho-pneumonia.

Prostatectomy he had practised three times only for a preponderant projection of the median lobe, causing retention and proving later a bar to the catheter. By the supra-pubic route, he excised the projecting lobes and cauterized the base with the cautery at red heat. In two of these cases he pierced every portion of the gland with the thermo cautery. These three partial prostatectomies were performed without accident dating back seven, nine and thirteen months. Catheterization has become very much easier, and much less frequently necessary, and there is more power in the stream. In the two on whom he used the ignipuncture, there proved to be marked decrease in volume.

Actual State of the Treatment of Prostatic Hypertrophy in the United States.—DR. GUITERAS.

DR. FRANK (Berlin) agrees as to vasectomy and castration with Legueu. He had done the operation of Bottini and Nicolich seven times, 1 case negative, six good result, patients no longer needed catheter, residual urine almost or completely disappeared, bladder regained its contractility, urine before purulent, now became clear.

As to technique the author gave hints which he had found of value.

DR. A. HOGGE has made three castrations. In the first case he lost sight of patient three weeks later, no result up to that time.

In the second, patient was 62, prostate smaller, very hard. Complete retention for three months, incomplete retention had covered a long period. There was immediate improvement though partial, necessitating use of the catheter two or three times a day. Improvement continued progressive for six months when patient died of intercurrent affection.

Third case was 73 years, prostatic of second period, residual 90 grammes. Urination imperious and frequent, no cystitis, bacteruria. Castration in February, '98, immediately after residual averaged 30 grammes, and nocturnal urination fell from ten to four or five times. Amelioration continues, patient never needs the catheter, his psychic and physical condition is excellent.

A fourth cure from the practice of Professor Van Winiwater, patient 68, frequently passing from incomplete to complete retention necessitating bladder puncture. Dysuria increasing. Castration in '96. Since then no accident or dysuria. General and local condition excellent. Prostate diminished. Has never had attack of cystitis since operation.

Has performed vasectomy three times, never any result except a passing decongestion.

Prostatectomy.—DR. DESNOS.

Contribution to the Study of Prostatism.—DR. MOTZ.

a. Results of the Bottini Operation. b. Presentation of an Inciser for the Prostate Combined with the Cystoscope.—DR. FEUDENBERG (Berlin). (a.)

The Bottini has been performed by the author eighty-six times in sixty-nine patients. Four consecutive deaths, of which two were due to early defective technique, two, in spite of operation, from pre-existing chronic pyelitis, eight cases thrown out because not prostatic, leaves sixty-one cases of prostatic hypertrophy, thirty-one cures, much improved sixteen, negative 8. In several a second operation gave better result. Two cases of cure absolutely completed. Latent in one case two and three-quarter years, in another three-quarter year. One of these

had complete retention dating back five years, the other three and one-half. One had had castration 6 months before the Bottini without the least good result.

The Bottini operation will give good results only on condition of perfect instruments and technique. In the last eleven cases there were nine complete successes, one much improved, one negative.

A general review of the literature gives mortality between $4\frac{1}{4}$ per cent. and 5.84 per cent., failure 7.66 per cent., good results 86.63 per cent.

Selections.

Syringocystoma. —PROF. NEUMANN (*Arch. f. Der. u. Syph.*, Vol. 54, 1900. pp. 3-16).

Two cases form the basis of this very interesting article. The first patient was admitted to the hospital with a diagnosis of "Lichen urticatus." The affection had been in existence from childhood; since the thirteenth year the eruption increased in amount, but some efflorescences disappeared. The disease does not cause any trouble to the patient. She never perspires even in very warm days.

The eruption occupied the anterior surface of the trunk from the clavicle to the umbilicus, in the form of numerous, round or oval, partly flat, partly spheroid, linseed-size papules, of dark grayish, pale-brown or pale-rose color. The papules were disseminated, occupying mostly the subclavicular fossæ and lateral surfaces of the trunk. On the breasts they were larger, partly yellowish, partly livid red. The lower eyelids were the seat of three flat, grayish red papules of irregular shape; the right eyelid was occupied by a growth, formed of an agglomeration of linseed-sized papules. The submaxillary, clavicular and axillary glands were normal. The patient was under observation for seven months and during that time some of the papules increased in size and changed their color, but no signs of inflammation or exudation were noticed. After an injection of pilocarpin an abundant secretion of saliva took place, associated with nausea and pressure in the region of the stomach. Only a very scanty secretion of sweat could be noticed upon the normal skin regions; the affected portions of the mammary and abdominal regions did not respond at all.

The second case was a woman 24 years of age. The duration of the affection could be traced back to the first years of her life, the eruption increasing with their passage. The skin of the trunk, especially the lateral portions of the chest, near the armpits, the manubrium sterni, the clavicular regions and the abdominal wall, were occupied with elevated papules of linseed to pea size. The smaller abdominal papules were flat and translucent; the largest on the chest and breasts are even or rough and have a slight central depression. The papules are sharply defined and movable only with the skin. They were neither grouped in clusters nor lines but rather irregularly disseminated.

Clinically, judging only from their appearance, the papules might have been regarded as myomata of the skin, multiple xanthomata or tumors, and therefore a microscopical examination was resorted to. The tissue was put in Müller's solution, hardened in alcohol and embedded in celloidin and paraffin. The sec-

tions were stained with hematoxylon and eosin, polychrome methylen blue and lithium-carmin. The elastic bundles were treated with acid orcein and resorcin-fuchsin. Important changes were found in the sweat glands, especially in the ducts, the walls and contents of which presented constant alterations. Large cyst-like spaces, partly with thin, partly with thick walls were seen in the cutis; some of these cysts had prolongations lined with numerous uniform epithelial cells, with normal protoplasm and vesicle-like, well staining nucleus. Some of those spaces were filled with the epithelial cells, others—more numerous—were lined with several layers of those cells, surrounded with a homogeneous, colloid-like mass. Those cells do not always keep their contours and nuclei intact. The contours of some of them were not so sharply defined; the protoplasm was not so granular, sometimes the nucleus was entirely absent. In some quite normal-appearing cells, the beginning of their degeneration could be noticed in the form of single, round, confluent, colloid-like bodies, situated in the granular protoplasm. These findings go to prove that the peculiar contents of the cyst-like spaces are formed owing to a colloid degeneration of the epithelia which line only the walls of the cysts. The coil-glands appeared smaller; some of the ducts exhibited solid buds, the structure and form of which corresponded with the structure and form of the foregoing cyst-like spaces. The same cyst-like spaces could be seen in the coil-gland itself.

Special attention is directed to the fact that in many sections ducts were found with no connection with the coil-gland. This fact probably is responsible for the opinion expressed by other writers that the tumors were due to embryonic aberrant coil-glands. While from the author's findings it follows that this disease is an affection of the ducts of the coil-glands, sometimes with, sometimes without involvement of the coil-gland and other tissue elements of the skin, the lack of connection between the cystic ducts and the coil-glands cannot be regarded as a criterion regarding the non-identity of the tumor with the coil-gland as sections of normal skin often bring into view ducts which have no connection with the coil-gland.

A critical review of the literature of this affection and the microscopical study of his cases prompt the author to say, that all we know about the disease is, that cystoma of the duct and ectasia in the coil-glands have been noticed; the varied contents of the cyst depend not upon different elements from which the cysts are formed but upon the various regressive metamorphoses which the epithelia undergo, giving in some cases a colloid cystoma in others, a hydrocystoma. He is not inclined to accept the congenital origin of the disease; he would rather regard his cases as retention-cysts, but he cannot say where lies the cause of the stasis of the gland secretion; a mechanical obstacle being excluded, he suggests the possibility of an abnormal composition of the coil-gland secretion.

The Pathological Anatomy of Zoster.—W. KOPYTOWSKI (Pathol. Institut. of Prof. Brewoski), (*Arch. f. Derm. u. Syph.*, vol. 54, 1900, pp. 17-53).

The object of the writer is to consider the parasitic (Pfeiffer) and the reticulating and ballooning epithelial degeneration theories (Unna) of zoster. The material for that study was provided by fifteen clinical cases, in which affected portions of the skin were removed under cocain, and by sections obtained from one case of zoster *post-mortem*. The fifteen cases presented various stages of zoster from the initial lesion to the crust formation stage.

The writer saw in the contents of the zoster vesicles multi-nuclear formations,

which Pfeiffer regarded as plasmodia, and which he considers to be changed epithelium. He arrived at this conclusion from finding numerous examples of the transition forms. On the other hand, also, he runs counter to Unna's view, because all the microscopical changes observed by him can be regarded as due to coagulation-necrosis (Weigert) with this modification, that the decomposing nuclei contain different amounts of chromatin, which may entirely or partially disappear. There is also a slight difference in the coagulation of the peripheral protoplasmic layers and in the agglomeration of cells in groups, giving them an appearance of giant cells. There is, therefore, no difference in the pathological process of herpes zoster of the skin and the similar inflammatory conditions in other organs.

Concerning the cause of zoster he is inclined to ascribe it to an infectious-toxic origin. He could not obtain any positive results regarding the involvement of the skin nerves in the foregoing process, either by the usual nor especial methods of staining. Five exquisite drawings accompany the article.

A Peculiar Case of Dermographism (chronic, factitious, hemorrhagic urticaria). —T. FABRY (*Arch. f. Derm. u. Syph.*, vol. 54, 1900, pp. 111-117).

The personal and family history of this interesting and unique case shows nothing of note; only one attack of inflammation of the lungs could be recorded during her sixty-three years of life. She has been married and had seven children.

The first attack of the disease occurred when she was sixty years old. It appeared in the form of ecchymoses in the upper eyelids which disappeared, reappearing in fourteen days, without producing any trouble. Then developed an itching sensation on the neck and breast and when the patient scratched the itching regions hemorrhagic bands appeared, which remained for weeks, changing their color in the same manner as we usually notice in hemorrhages. No hemorrhages have been noticed either in the mucous membrane of respiratory or digestive organs during the whole period of the disease.

The author saw the patient for the first time six months before her death. She was emaciated, weak. Her tongue was edematous—at least five times its natural size, protruding from her mouth; the longitudinal form of the tongue was retained, the increase being in the bulk; the tongue was enlarged in toto, no folds could be seen; the surface was normal, neither erosions nor petechiæ could be noticed. It was of soft consistency, painless to the touch. Submaxillary glands were not swollen. The patient could not bring the tongue into her mouth; suffering from salivation and hunger. Upon both shoulders were seen irregular dark-purple tinted bands and irregular patches which had the usual tint of blood extravasations. By a gentle touch with a blunt instrument various figures could be produced upon the skin surface anywhere.

It differed from the usual dermatographism in this respect, that hemorrhages instantly appeared in the wheals brought out. While the urticarial elements quickly disappeared, the purple bands remained for weeks undergoing the usual color changes of blood extravasations. The patches never appeared spontaneously—only after an injury, even a very slight one. Even the palms and soles responded in the same manner to a trauma. Nothing abnormal was noticed in the nervous system. General examination did not reveal any changes in internal organs—only a very pronounced anemia was observed. She died from exhaustion. No necropsy was permitted.

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Original Communications.

A CRITICAL REVIEW OF THE LITERATURE OF GUMMA OF THE SPERMATIC CORD WITH THE REPORT OF A CASE.

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SYPHILITIC affections of the spermatic cord are very rare and in the cases reported they generally accompany a syphilitic orcho-epididymitis.

Gummatous affections involving the spermatic cord alone are still more infrequent, for only a very small number of cases are to be found in the literature of the subject, and most text-books on syphilis make no mention of this affection at all.

Hélot¹ ("Memoire sur la testicule syphilitique") observed two cases where, without any previous traumatism, the vas deferens was three times the normal size. From the meager description given, it is doubtful if these can be accepted as cases of syphilitic funiculitis.

Verneuil² describes a gumma of the size of two fists, which extended upward into the iliac fossa and was very painful. The tumor had been diagnosticated as carcinoma, but the specific nature was proven at the *post-mortem* examination.

Kocher³ observed two gummata in the spermatic cord of a patient, one of which was as large as a goose egg.

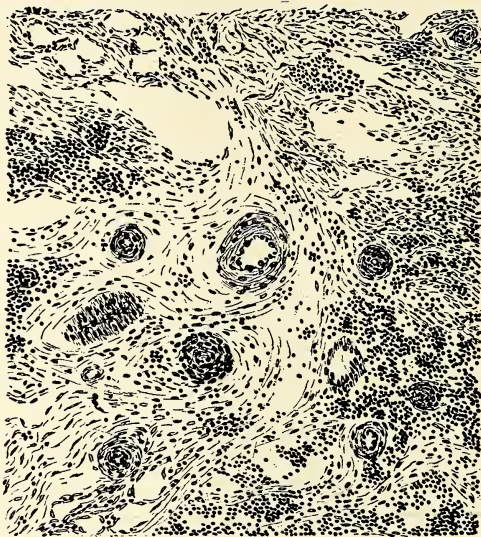
¹ *Journal de chirurgie de Malgaigne*, Paris, 1846.

² "Dictionnaire encyclopédique des Sciences médicales," 1856.

³ Pitha-Bilroth, "Handbuch der allgem. and spec. Chirurgie."

Réclus¹ reports two cases of a diffuse syphilitic funiculitis where "the vasa deferentia were as stiff and rigid as a glass rod, and had attained the diameter of a pen holder."

Mauriac² speaks of the extreme rarity of a specific affection of the cord alone, and describes a case of a solid tumor of the right spermatic cord which appeared ten years after the first symptoms of syphilis.



M. von Zeissl³ observed a suppurating tumor of the right side of the scrotum involving the vas deferens. The tumor was irregular, elastic, and of the size of a pigeon-egg. The patient had a relapsing papular syphilide.

Bert⁴ reports a case in which two nodules existed on each of the spermatic cords; on one side absorption took place under specific treatment, while the nodules on the other side broke down and discharged a gummatous material.

E. Fuller⁵ saw in a case of a gentleman who had contracted syphilis some years previously, "a painless quite firm tumor, which attained the size of an almond, in connection with the cord of the left side, just outside of the external ring. Under mixed treatment this soon disappeared."

It has been my good fortune to meet with a case of gumma of the

¹ "De la syphilis du testicule," Paris, 1882.

² "Syphilis tertiaire," 1890.

³ *Wiener med. Blätter*, 1883, No. 12.

⁴ *Annales de la Polyclinic de Bordeaux*, 1889.

⁵ Morrow, "System of Genito-Urinary Diseases, etc."

spermatic cord, where the appearances on incision and the subsequent microscopical examination confirmed the diagnosis. The patient was a young man, 23 years of age, who came under my care at the Mount Sinai Hospital Dispensary on account of syphilis of six-months' standing. He had been free from all manifest symptoms when he presented himself one day with a swelling on the left side of the scrotum, which he discovered accidentally, and which was not due to any traumatism.

On examination, I found on the left posterior surface of scrotum, about $\frac{1}{4}$ -inch from the raphe, a round, sharply circumscribed, hard mass, slightly cystic in feeling, about 2 c.cm. in diameter, giving a sense of fluctuation to the examining finger. The tumor was slightly adherent to the skin, which did not show any visible changes in color or structure; there was no spontaneous pain, but tenderness on pressure. Testicle and epididymis were absolutely normal, the spermatic cord otherwise unchanged.

I had the impression that the tumor originated from the cord, and that we had to deal with a gumma of the latter. Dr. Luckett, my surgical confrère, who was kind enough to examine the patient at my instance, however, thought that the tumor was free from the cord and was inclined to consider it a sebaceous cyst.

His suggestion to make an incision was carried out, and the mass was found to be adherent to the skin by inflammatory exudate and closely connected with the cord. It was not as sharply circumscribed as it had appeared to be from the external examination, it has extended somewhat into the surrounding tissues. The tumor proper had the characteristic bluish-gray appearance of a gumma, and in several places showed evidences of breaking down.

Although the correctness of the diagnosis of gumma of the spermatic cord was undoubted, a piece was excised for microscopical examination which was kindly done by Dr. Mandlebaum, the pathologist of the Mount Sinai Hospital.

His report is as follows: The section shows areas of spheroidal cells of uniform size, in the middle of which there are numerous blood-vessels, many showing a mild degree of endarteritis, others being entirely occluded (endarteritis obliterans). In other places a moderate and dense network of newly formed embryonal connective tissue with hyaline changes is noted. Quite a large number of newly formed capillaries are seen in these areas, which give the impression of a succulent fibrous growth. Parts of the section are invaded by a mass of leucocytes and fibrin, showing that an inflammatory process has been present. No giant cells are to be seen. Diagnosis: Gumma with secondary inflammatory changes.

A CASE OF MALIGNANT SYPHILIS CURED BY ZITTMANN'S DECOCTION.*

BY GRANVILLE MACGOWAN, M.D.,

Professor of Genito-Urinary Surgery and Syphilis in the Medical Department,
University of Southern California, Los Angeles, Cal.

IN the course of the discussion of the very valuable paper of Dudley Tait, upon the intravenous injections of mercury in the treatment of syphilis, at the last session of this society, speaking entirely from retrospective experience, I recommended the use of the decoction of Zittmann in very malignant cases of syphilis that proved rebellious to the influence of mercury or the iodides. Dr. Chismore spoke favorably of the virtues of this preparation in similar cases.

Dr. Tait, in closing the discussion, spoke deprecatingly of the decoction, terming it, "A lame excuse for a logical treatment." The best method of teaching I know of is that of the kindergarten, by object lessons.

I had, at that time, in my collection of original photographs, the negatives and prints of two cases of malignant secondary syphilis, with profound, disorganizing, destructive inflammation of the skin, which had nearly proved fatal, had been uninfluenced by the exhibition of mercury, had steadily become worse under the use of kalium iodide up to one ounce daily, but which had become perfectly cured under the influence of Zittmann's decoction. Social reasons prevent the presentation to-night of the photographs of one of these men, for he is a well-known man of position in New York.

The other, a poor fellow, stranded, penniless and hopeless when he came to me, has gratefully given permission to use the photographs taken of him, in any manner I may see fit. From these pictures, and the following opinions of men of known skill and vast experience in the treatment of difficult cases of syphilis, you are to judge whether it is well to overlook and despise a therapeutic agent that can give, at such times, such results.

Neumann¹ says: "Zitmann's decoction, which is of special value in ulcerative syphilides, is made," etc. It was formerly thought that in syphilis of long standing, and cachectic and badly-nourished individuals, Zittmann's decoction could not be given in safety. But from

* Read before the Medical Society of the State of California, at its meeting in San Francisco, April, 1900.

the experience gained in our dermatological clinic, and in our private practice, we do not share this fear.

For instance, we have seen an individual upon whom all other anti-syphilitic remedies had been used without effect, and for whom the decoction had been prescribed, simply because something had to be done, entirely recover from his affection, and put on weight and get strong.

Bumstead and Taylor,² in speaking of its usefulness, say: "We have employed it with good results in some inveterate cases of syphilis,



FIG. 1.

giving from eight ounces to a pint of the stronger preparation in the course of the day. In some instances it had a very marked effect in increasing the appetite and improving the general condition of the patient."

Kaposi,³ in recounting the agents most useful in the treatment of syphilis, says: "The third remedy, Zittmann's decoction, I regard as extremely effective in late forms, especially in ulcerative affections of the pharynx and skin. I do not believe that its action is due to the

slight admixture of mercury, which is probably present in the official preparation, because it often acts excellently when inunctions, etc., are useless."

The elder Keyes,⁴ and his distinguished colleague, Chetwood,⁴ acknowledge its value in their recent work:

"It is a remedy of undoubted value in many conditions of late syphilis, attended by cachexia, loss of appetite, anemia, and irritable stomach, especially when the iodides disagree."

On the other side, Fournier⁵ does not mention it. Crocker⁶ dismisses it with a few words, and J. Wm. White⁷ decidedly questions its virtues, and attributes them to the large quantity of water taken and the use of accompanying inunctions, seeming to think that the method, formerly used by Zeissl⁸ and others, of giving a daily rub of 60 grains of mercurial ointment, while taking the decoction, a necessary part of the treatment. Lapowski,⁹ in his excellent magazine article on the treatment of syphilis, overlooks it entirely.

In the preparation of the decoction I prefer to adhere as closely as possible to the original formula. It spoils readily, especially in hot weather, and it is necessary to keep it in the ice-chest. The quantity, usually directed to be made is suitable only for large hospitals, when several persons are receiving the treatment at the same time.

The following formula is the original, so reduced that it is just enough to last from six to ten days, according to the capability of the patient's stomach for receiving and disposing of it:

ZITTMANN'S DECOCTION.

Bruised sarsaparilla root	4 oz.
Water	280 "

(Package No. 1.)

Fennel seed	} aa. 80 gr.
Anise seed	
Licorice root, cut	} aa. ½ oz.
Senna leaves	

Digest the sarsaparilla root in the water for twenty-four hours, then add package No. 1, and bring to a boil, while suspended in it in a linen bag is:

(Package No. 2.)

Powdered alum	} aa. 120 gr.
Powdered white sugar	
Calomel	80 "
Cinnabar	20 "

Boil gently until the quantity is reduced to a gallon, or a little less, then strain through a fine cloth, and put up in bottles that will hold a little more than a pint.

Label this: Zittmann's decoction, No. 1.

To the dregs of this decoction add the contents of package No. 3.

(Package No. 3.)

Cardamon seeds	} aa. 60 gr.
Cinnamon bark	
Licorice root	

Pour in 280 ounces of boiling water, and cook to a gallon. Strain, and bottle as before. Label: Decoction, No. 2.

In giving it, I direct that both the stronger, No. 1, and the weaker, No. 2, be given each day—the first for its purgative and diaphoretic effect, the second for its diuretic properties. I pay no attention whatever to the troublesome, and, to my mind, silly directions about the use of large quantities of hot water with the decoction. The dose of the stronger decoction is not very nice at any time, but the dislike to it, and the nausea it provokes, when given in large quantities, may be overcome if the individual is gradually accustomed to it.

I direct that the patient shall have a light breakfast at 7 A.M., and at 9 A.M. he shall receive four ounces of the stronger decoction, as hot as he can drink it; this dose is increased one or two ounces each day until he is taking a pint, or as near a pint as he can take without vomiting. The dose will usually purge him, but not violently, from two to four times during the day. He stays in bed during the forenoon, and sweats.

He receives a light lunch at 12.30, and at 3.30, while in bed, takes from half a pint to a pint of the weaker decoction, cold.

Later, he gets an alcohol rub, and at 6 P.M. a good dinner, without any green vegetables or fruits. No mercury, or any other drug whatever, that is intended to influence directly the course of the syphilis, is used while the decoction is given. Improvement need not be looked for immediately, but early in the second week of the treatment you will notice the listless eye become brighter, the clouded mind become clearer, the demand for food increase, ulcers begin to repair, and other skin lesions commence to disappear. In the fourth or fifth week your patient will be on the high road to recovery. The improvement of his condition does not establish a tolerance for the Zittmann; the better he grows the less he likes his dose. Presently, when the nails and ear lobes are pink, and the eye clear once more, you can return to mercurials for the completion of the cure.

I have the following case to report, briefly:

John K., fireman, 38 years of age, addicted to alcoholic excesses, was admitted to the Los Angeles County Hospital September 25, 1897. Chancre in August, 1891, with the usual manifestations during the first year, some mucous patches on the tongue, a few papular rashes, and some alopecia. Married three years afterwards, has no children, but his wife has had one or two miscarriages. She, however, presents no evidence of syphilis. He suffered no inconvenience from his disease, and his general health was good until the beginning of September, 1897, when he noticed some small pustules upon the thighs and legs, and a serpiginous papular rash upon the forearms.

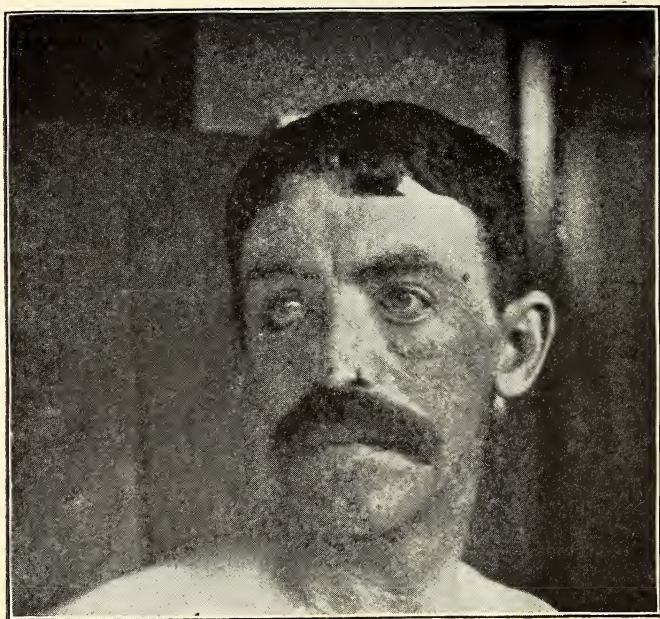


FIG. 2.

His physician, knowing his history, gave him daily inunctions for fully three weeks, but he steadily grew worse, and, being without means, he sought entrance to the County Hospital. The resident physician changed the mercurial to the protoiodide, given after the method of Keyes, and simultaneously gave him potassium iodide, up to 240 grains daily. Iodism occurred, he lost his appetite, and even desire for food. He was given iron peptomanganate, strychnin, kola wine, extra nutritious foods, and hot baths, with rubs of cod-liver oil. When I returned from my vacation, on the 10th of October, he presented very much the

appearance seen in the photographs. The papulo-crustaceous lesions upon the face and neck had spread until they covered and concealed the features, and even the hairy scalp, with a horrible mask. The movements of the stiffened muscles beneath had cracked, and seamed the crust, and through these breaks there constantly oozed a fetid pus, mixed with bloody serum and sebaceous matter, which, drying, increased the thickness of the ochre-colored mass.

In some places the type of the lesion was eczematous; the crust yellow, dry and friable, when removed, would leave a weeping surface. Elsewhere, where there was no suppuration, the dirty covering could be lifted in small pieces by slipping a flat probe underneath it, exposing the moist, and sometime bleeding, papillæ beneath, carrying on their under surface long plugs from the sebaceous follicles, such as one sees in erythematous lupus or seborrhea. Again, the lesional form assumed would be distinctly impetiginous, but all had that horrible stale, dead odor, common to the fermenting secretions of moist, fungating syphilides.

Upon the arms, chest and back, large papules, nodules and pustules were scattered, singly or in groups. Upon the forearms, wrists and hands, influenced, I believe, by the effects of the iodine eruption, it had lost its serpiginous-ulcerative character, had spread over the whole surface, and assumed an annular form, the rings, iris-colored at first, becoming moist; the exudate and raised epithelium formed, in some places, crusts, with superficial ulceration beneath; at others, flat, irregular, warty-like growths, with deep, bleeding cracks between, foul, ill-smelling, and where dry, crumbling on pressure; nauseous even to look upon. The hands, puffed and swollen to twice their normal size, were covered with vesicles, bullæ, fungating papillary growths, and irregular, excavated ulcers. Upon the legs and thighs was a plentiful rupial syphiloderm, with its piled, oyster-shell like crusts and deep, painful ulcers, hard-edged, and filled with green pus.

He, at this time, was septic, had chills, a temperature to 103° F., and intermittent delirium. My first impression, when I saw his face, was that I had to deal with a marked case of cutaneous tuberculosis, and this opinion appeared to be confirmed by the gross appearance of the tissues, stripped of their scabs, the sebum plugs hanging to the crusts lifted with the probe, and the fact that a blunt silver probe could be readily thrust, at the level of the cheeks, entirely through the mass that occupied the space where the nose properly belonged. But the cone-shaped, Squib-mitigated stick of silver nitrate would not sink into the tissues anywhere.

When I heard the history, saw the legs and body, and fully

grasped the peculiarly syphilitic type of the evolution of the polymorphous lesions, I saw my error. Syphilis it surely was, bad syphilis, apparently hopeless syphilis.

I ordered him to be treated by fumigations; they choked him. He then received half a dozen daily intra-dermic injections of sublimate, to $\frac{1}{6}$ grain, without benefit; this was followed by an injection of calomel, when, to add to his horrible condition, he was attacked with mercurial stomatitis. He was then given Zittmann's decoction, as the last resort.

He commenced with a daily dose of four ounces of the stronger, and six ounces of the weaker, decoction. This was gradually raised to the full dose of one pint each. His wife, who nursed him, saw that he received his medicine and took it.

The entire body was enveloped, first in Thiersch solution, then black and yellow washes, then sublimate solution, $\frac{1}{5000}$, and, finally, the ulcerated surfaces and crusts were coated with a 10-per-cent. emulsion of iodoform, in camphorated olive oil. At the beginning of the second week his appetite improved, and his fever left him. In the third week the swelling left the face, and the ulcers commenced to fill, the scabs to fall, and the eyes, long closed, opened again.

In five weeks he was well enough to be out of doors, the decoction was stopped, and he was placed upon mercury by the mouth. In six months afterwards he entered the employ of the hospital as night nurse, and has remained well ever since. After the scabs fell, deep scars were left, which in many places had appended to them warty tags, the remnants of the papillary and epidermic layers that were not destroyed. These were easily and permanently removed by clipping them with scissors, close to the surface of the face, and applying the mitigated silver cone to the cut surface to stop hemorrhage.

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NEW INTRAVESICAL CYSTOSCOPIC INSTRUMENTS.

I. MODIFIED LITHOTRITE AND FOREIGN-BODY FORCEPS. 2. FOREIGN-BODY FORCEPS.

BY FREDERIC BIERHOFF, M.D.,

New York City.

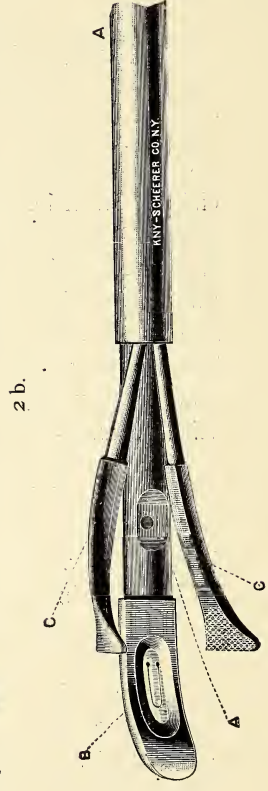
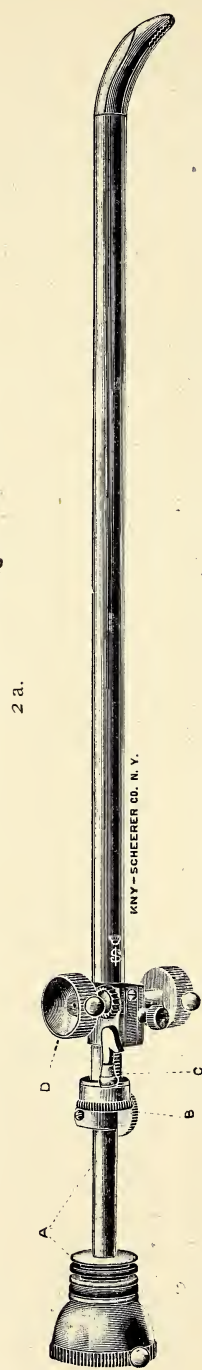
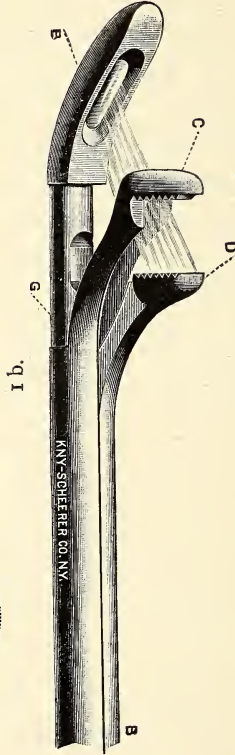
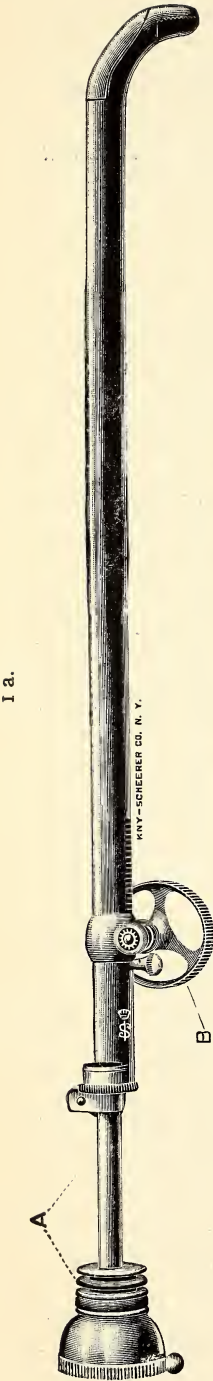
1. The original Nitze cystoscopic lithotrite and foreign-body forceps (of which the present instrument is a modification and improvement), possessed the great disadvantage that, since the posterior jaw was the immovable one, separation of the jaws caused the movable one to move toward the prism, and thus to greatly obstruct the field of vision. In order to remove this objection, which greatly increased the difficulties in the use of the instrument, I had the firm of Louis & H. Loewenstein, of Berlin, Germany, construct the present instrument for me. This differs from the original in that the *posterior* jaw is fixed, and, in addition, the shaft thereof fenestrated (See Fig. 1*b*, C). The anterior jaw (Fig. 1*b*, D) is the movable one. It will be seen that thus an object once located in the field of vision is more easily seized than with the old instrument.

The method of use is as follows;

The closed instrument (Fig. 1*a*), which consists of a cystoscope (Fig. 1*a*, A and Fig. 1*b*, B-G), lying in and freely movable in the forceps (Fig. 1*a*, B. and Fig. 1*b*, C-D), is inserted into the bladder, which contains the usual filling of boric-acid solution.

The cystoscope is then pushed farther into the bladder, till it assumes the position as shown in Fig. 1*b* (B-G). The forceps is turned completely out of the field of vision, by simply turning it about the long axis of the shaft. The foreign body having been located, the forceps is opened by turning the wheel (Fig. 1*a*, B), and then turned into the field of vision and maneuvered so that the *posterior* jaw (Fig. 1*b* C) lies just behind and touching the body. In doing this, it will be found that the fenestrum in the shaft of the *posterior* jaw enables one to see the foreign body clearly, as it lies between the jaws, and also to bring the corrugated surface of this jaw into position against it. By turning back the wheel, the anterior jaw is brought against the fragment of stone, or the foreign body.

To remove the instrument it is closed, the cystoscope drawn forward, till it appears as in Fig. 1*a*, the small button upon the ocular



end being made to align itself with the small screw-pin at the end of the toothed plate on the lithotrite shaft.

The objects of the instrument are: To crush small, soft calculi, or the fragments of calculi after lithotritry, and to remove foreign bodies from the bladder, under control of the eye.

2. Cystoscopic foreign-body forceps.

This consists of a cystoscopic portion and a forceps.

The cystoscope (Fig. 2a, A; Fig 2b, A-B) lies in a tubular canal on the posterior surface of the instrument (as is also the case with the preceding instrument), in which canal it is freely movable. A small screw (Fig. 2a, B) serves to tighten a small muff at the outer end of shaft of the forceps, and serves to fix this to the cystoscope in any position desired. The forceps (Fig. 2b, C-C) opens laterally, thus leaving the field of vision clear, during the entire operation. Motion is imparted to the forceps by means of the two small wheels (Fig. 2a, D), at its outer end. The button on the periphery of the wheels serves as an indicator to regulate the degree of separation of the jaws of the forceps. *One revolution* of the wheels should be the limit of separation, as further turning may allow the toothed plate to pass beyond the controlling toothed wheel, and thus render the closure of the jaws difficult. A small clip, or pinion (Fig. 2a, C), allows of fixation of the jaws at any point, so that further separation is impossible, whilst further closing is not interfered with.

Its method of introduction and use, and manner of withdrawal, are similar to those described for the lithotrite. It is, however, only intended for use in the extraction of foreign bodies. This instrument was also constructed for me by Louis & H. Loewenstein.

Both instruments are sterilizable by boiling, with the exception of the cystoscopes themselves. These may, however, be sterilized by formaldehyde in vapor, or in solution, or by other fluid media.

651 Madison Avenue, cor. Sixtieth Street.

A CASE OF MULTIPLE ANGIOSARCOMA OF THE SKIN.

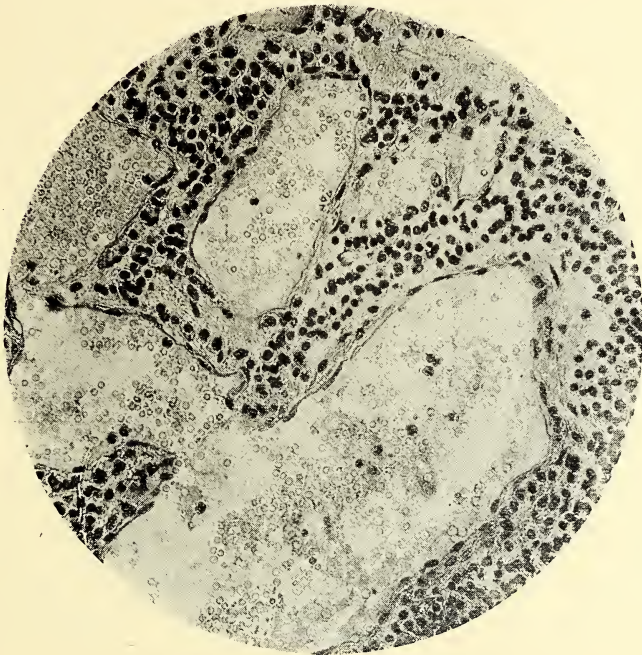
BY JAMES C. JOHNSTON, A.B., M.D.,
New York.

THE case, which has some uncommon features, was turned over to me by Dr. F. W. Gwyer, of this city, from his service in Bellevue Hospital. The patient was a child, 16 months old, well nourished and in good health. The tumors, whose nature was unsuspected, were scattered in small number over the body, a departure from the general run, in which the growth is solitary and located on the head. The nodules were rather large, an inch or more in diameter, soft, movable, elevated, non-pigmented, and covered by a smooth epidermis. In cases of long standing, thickening of the horny layer is apt to occur. It is not possible to determine whether the multiple growth was due to metastasis, but it seems fair to assume, in view of their character and the age of the patient, that the tumors developed simultaneously. The history sheds no light on this point. There was no lymph-node involvement, and as nothing further has been heard of the case, the question of recurrence must remain unsettled. At the operation (October 29, 1899) the growths were found to be rather sharply limited and the clinical diagnosis of vascular nævi was made. The tumor process being endotheliomatous, benign in most instances, it is likely that excision effected a complete and permanent cure. I am aware that the history is meager, but it is my experience that atypical neoplasms in the skin are correctly diagnosed only, if at all, at the microscopist's table, and the histology is incomparably of greater importance.

Histology.—One tumor, from the shoulder, was sent to the laboratory of Cornell University Medical College. It was, before hardening, perhaps, in its greatest diameters, $1\frac{1}{2}$ by 1 by 1 inch, and was shelled out of the surrounding connective tissue, making the exact point of origin difficult to determine. The new formation takes place apparently only in the blood capillaries; the lymph channels are not involved, for the new spaces contain blood in every instance. Lobulation is apparent even in the gross appearance, fibrous septa surrounding and separating neighboring tumor masses. This connective tissue is not a new development, but is a condensation resulting from new growth between preëxistent fibers. There is no evidence in the latter of proliferation. The limit of the neoplastic masses

below is the subcutaneous fat; consequently, it is probable that the capillaries of the reticular layer next the adipose tissue furnished the starting point of the new formation.

The lobules are made up of numerous dilated vessels, lined with swollen endothelium, a supporting reticulum of delicate areolar tissue and masses of cells. The last are arranged in concentric rows about the vessels, in islands and in strings, the individual elements placed end to end. The cells are round or cuboidal from pressure, with a clear protoplasm, having little affinity for dyes of any sort, condensed at



the periphery into a false cell membrane and a central, round, diffusely staining nucleus, in a word, embryonic endothelium. The same type is seen in other endotheliomas and in certain specific inflammations of low grade. My first impression was that the new vessels were formed before birth, lined by rather flattened cells, and that they proliferated externally, as they sometimes do in other endotheliomas. A further examination leads to a different interpretation. As in granulation tissue, the endothelium of the capillaries involved puts out solid buds of cells, through which the blood is forced, hollowing out a channel for itself in their center in some instances, in others finding its way

into a space formed by a process of vacuolation, also in the central portion. In either case, the new channel soon becomes lined by flattened cells, the embryonal bodies reassuming their special forms. The process of vacuolation (I cannot better describe it) can be seen in many of the separate islands, the space empty, since the blood has not yet found its way into them. Once formed, the new channels widen rapidly. The strings of cells can be explained by snaring off some portion of the growth by connective tissue, often seen in epithelial neoplasms. Proliferating, the spread is along the line of least resistance, in single-celled chains. The accompanying photograph, taken by Dr. B. H. Buxton, is from another case, but shows a condition identical with that I am describing. It is readily seen that this tumor is by no means identical with those described by Fordyce (*Amer. Journ. of Med. Sciences*, August, 1900) and Winfield (*JOURN. OF CUT. AND G.-D. DIS.*, April, 1900). In both instances, the term angiosarcoma is correctly applied, because, although there are new-formed vessels (blood and lymph channels in Winfield's case) cellular proliferation occurs in perivascular fibroblasts, and the cells are spindle shaped. While endothelium and connective tissue corpuscles are congeners, they do not in adult life assume each other's function, and tumors derived from the first are much more nearly allied to epithelial than to connective tissue neoplasms. If a precise terminology is a desirable thing (it seems doubtful in specific instances) the proper appellation in this instance would be hemangio-endothelioma.

Wolters has recently recounted two cases (*Archiv f. Derm. u. Syph.*, September, 1900, p. 269 with plates) which he calls hemangio-endothelioma and hemango-sarcoma. The first closely resembles this case, being multiple, the tumors brownish and flat or papular. Endothelial proliferation resulted in blocking the vessels, a feature absent here. Otherwise, the histology is identical. The second case belongs to the Fordyce-Winfield type.

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S.

be so good as to reproduce for me
"Crisis of the Skin in Man," which
of work incident to my departure
ers were made. Yours very truly,
JAMES NEVINS HYDE.

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"çons sur la Syphilis," should be

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Y AND CLINIC IN HAMBURG.

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Table Showing Cases of Blastomycetic Infection of the Skin in Man.

AUTHORS	NO	SEX	AGE	OCCUPATION	NATIVITY	DURATION OF DISEASE	REGIONS INVADIED	PRIOR VENEREAL DISEASE	HISTORY OF STRUMA, OR TUBERCULOSIS	TREATMENT	RESULTS	CULTURES	REFERENCES
Gilchrist-Duhring	1	M	..	.....	.....	.....	Back of hand	None	.....	.....	.....	.....	Johns Hopkins Hospital Reports, Vol. 1, 1899.
Busse-Buschke	2	F	31	.....	Germany	10 months	Face, left tibial region	None	Struma	.....	Death	Successful	Virchow's Archiv, 1895, Bd. 149, Heft 1.
Gilchrist-Stokes	3	M	33	.....	.....	11½ years	Left ear, face, hand, scrotum, thigh, leg	None	None	.....	.....	Successful	Journal of Exp. Medicine, Vol. III, No. 1, 1898.
Wells-Senn	4	M	40	.....	.....	11 years	Left hand	.....	.....	Plastic operation	Recovery	.....	New York Med. Jour., March 26, 1898.
Hessler	5	M	..	.....	.....	1 year	Cheek	None	None	.....	.....	Successful	Indiana Med. Jour., Aug. 1898.
Hyde-Hektoen	6	M	57	Laborer	Holland	5 years	Right leg, left hand	None	Four of family dead of tuberculosis	K. I., Curetting	Improvement, then relapse	Successful	British Jour. of Derm'y, No. 129, Vol. XI.
Hektoen	7	F	64	.....	.....	.....	Right leg, post. face	None	None	Excision	Permanent relief	.....	British Journal of Derm'y, No. 129, Vol. XI. Refer.
Anthony-Herzog	8	M	41	Barber	Germany	20 years	Thigh, leg, plantar face of foot (rt)	None	None	K. I., Curetting	Improvement	.....	Jour. of Cutan. and Gen.-Ur. Dis., January, 1900.
Contes	9	M	38	Stationary Engineer	America	1 year	Lower lip, lower lid, right side	None	None	Lip tumor excised, finger nodule curetted	Recovery	.....	Medicine, February, 1900.
Owens-Eisendrath-Ready	10	F	38	.....	.....	4 years	Left thigh	None	None	Excision, grafting	Recovery	Successful	Annals of Surgery, Nov., 1899.
Irayton, A. W.	11	M	50	Stableman	England	18 months	Right middle finger, prox. phalanx	None	None	Curetting	Recovery	.....	Reprint, April, 1900, Ind. Med. Jour., p. 403.
Hyde-Ricketts	12	M	33	Farmer	America	2 years	Left side of face	None	None	K. I.	Recovery almost compl.	Successful	Report herewith.
Hyde-Ricketts	13	M	47	Pipe Layer	Ireland	2 years	Right arm	None	None	K. I.	Great improvement	.....	Report herewith.
Montgomery-Ricketts	14	M	45	Grain Dealer	.....	4 months	Lower lip	None	None	K. I., Excision	Recovery	Successful	Jour. Cutan. and Gen.-Urin. Dis., January, 1901.
Montgomery-Ricketts	15	M	38	Carpenter	.....	4 years	Left side of face	None	None	K. I.	Recovery almost compl.	.....	Jour. Cutan. and Gen.-Urin. Dis., January, 1901.
Montgomery	16	M	33	Carpenter	America	7 years	Back, face	None	Mother, tuberculosis	Operation	Death	.....	Jour. Cutan. and Gen.-Urin. Dis., January, 1901.
Dyer	17	F	55	Housekeeper	England	1 year	Face, hands, left leg	None	None	Sod. iodide	Recovery	Successful	Jour. Cutan. and Gen.-Urin. Dis., January, 1901.

into a space formed by a process of portion. In either case, the new chambered cells, the embryonal bodies, react in the process of vacuolation (I cannot be sure of many of the separate islands, the space has yet found its way into them. Once they are rapidly. The strings of cells can be a portion of the growth by connective tissue neoplasms. Proliferating, the spread is in single-celled chains. The description by Dr. B. H. Buxton, is from another identical with that I am describing. It is by no means identical with those in the *Journ. of Med. Sciences*, August, 1900, CUT. AND G.-D. DIS., April, 1900). The term sarcoma is correctly applied, because the vessels (blood and lymph channels) proliferate in perivascular fibrous shapes. While endothelium and connective tissue, they do not in adult life as tumors derived from the first are much more than to connective tissue neoplasms. It is a desirable thing (it seems doubtful if the appellation in this instance would be).

Wolters has recently recounted two cases (September, 1900, p. 269 with plates) of fibroma and hemango-sarcoma. The first being multiple, the tumors brownish and proliferating resulted in blocking the vessels. Otherwise, the histology is identical. Fordyce-Winfield type.

Correspondence.

CORRECTIONS.

TO THE EDITOR: *My Dear Sir:* Will you be so good as to reproduce for me the table appended to my article on "Blastomycosis of the Skin in Man," which appeared in your last issue? In the pressure of work incident to my departure for Europe for two or three months, a few errors were made. Yours very truly,

JAMES NEVINS HYDE.

Jan. 21, 1901.

Dr. H. G. Klotz desires the Editor to make the following correction in his article which appeared in the February issue. On p. 81, four lines from the bottom, the quotation beginning "Fournier in 'Leçons sur la Syphilis,'" should be credited to Robert W. Taylor.

ANNOUNCEMENT.

DR. UNNA'S DERMATOLOGICAL LABORATORY AND CLINIC IN HAMBURG.
(Heussweg 13, Eimsbüttel.)

After January 1, 1901, Unna's Dermatological Laboratory will be housed separately from his clinic and at the same time materially enlarged and rendered more serviceable for teaching purposes. Drs. Abel, Cohn, Delbanco, Herz, Leistikow, Smilowski, Troplowitz, and Unna will take part in giving regular demonstration courses, the subjects of which are: Normal Anatomy, Physiology Histotechnic, General Pathology, Histopathology, Mycopathology, Experimental Pathology, Microphotography, as well as hygiene of skin. Clinical Diagnosis, General Therapy, Special Therapy, Pharmacology, Pharmatechnic, Macrophotography and History Taking of diseases of the skin, will be considered chiefly. Two courses will be given every year, of six weeks' duration, from beginning of February to middle of March, and from end of September to middle of November. Besides this, there will be tables in the laboratory for persons who wish to carry on individual research work in dermatology. The chemical laboratory is under the supervision of Dr. Troplowitz. The students of the clinic and laboratory have the freedom of Dr. Unna's polyclinic and library.

Society Transactions.

THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

SECTION ON URINARY SURGERY.

(Conclusion—*Annales d. mal. d. org. genito-urin.*, p. 845, 1900.)

Gonorrheal Lesions of the Prostate.—DR. FRANK.—These are not only the most frequent complication of gonorrhea, but they may supervene very early in an attack. In 210 cases of posterior urethritis the prostate was involved 210 times, ninety-six times this prostatitis declared itself within the first eight days, or earlier. [The author does not state, unfortunately, what proportion of these cases, if any, were primary cases.—Ed.]

By appropriate treatment the number of cases of prostatic involvement may be greatly reduced. Out of 651 cases of gonorrhea, the posterior urethra was attacked 210 times, $33\frac{3}{4}$ per cent. In the prostatic secretion gonococci were found 179 times, other bacteria 20 times, leucocytes without microbes 11 times. Treatment consists in the rectal massage of the involved foci, followed by lavage appropriate to the bacteriological findings.

When the infection is recent and confined to the anterior urethra he uses protargol irrigation once a day. Infected tracts of para-urethral glands, or congenital anomalies, should be attacked surgically and at once.

DR. FREUDENBERG recommends for electro-massage of the prostate, the use of the physician's finger as one pole, the other pole being a broad plate over the hypogastrium. The finger can be insulated by means of a rubber cot, a fenestrum near the tip being made where the finger comes in contact with the prostate. Only a weak faradic current can be used this way, galvanism not being practical.

Phagocytosis from a Practical Standpoint.—DR. DORST.—Negative chemotaxis does not exist, because the formation of an abscess is due not only to the degree of virulence, but also as well to the number of pathogenic microbes.

The sudden diminution of a gonorrheal discharge is due to a complication, that is the concentration elsewhere of the polynuclear leucocytes. The presence of many polynuclear leucocytes and relatively few pathogenic micro-organisms in the pus points to a favorable prognosis, other things being equal.

In treating infections we should favor the concentration of the polynuclear leucocytes by the application of local heat. Local heat as treatment for chronic gonorrheal prostatitis should be applied by the Arzberger-Finger instrument to the anterior wall of the rectum only, in order to better promote concentration of the polynuclear leucocytes.

Copious lavage, according to the Janet method, with hot permanganate solution, is much the best treatment in sub-acute and chronic gonorrhea. The method improves prognosis and a better means of judging the question of marriage.

As to abortive treatment of gonorrhea strong solutions are dangerous, harm-

ful to the connective tissue and the polynuclear phagocytes; for the same reason, we should keep strong antiseptics from wounds, above all infected wounds, exception being made of nitrate of silver below 5 per cent.

The absence of elevated temperature in old people and in the cachetic is due to the fact that in them the polynuclear leucocytes are more necessary than in younger and more resistant persons.

Urinary Infections Caused by Anaerobic Microbes.—DRS. ALBARRAN and COTTEL.—It is two years since the authors first called attention to the rôle of anaerobic microbes in urinary infection. They have made in all a study of forty-three cases. After making an analysis of these forty-three cases with infections in various portions of the urinary tract, the authors express the conviction that from the urethra to the kidney, the study of urinary infection must be completely revised by taking into account those infections which are anaerobic, aside from those caused by aerobic microbes, which only have been studied previously.

In every portion of the urinary tract, anaerobic infection, either alone or associated with aerobic infection, may play an important rôle, often preponderating or exclusive.

In a general way we may to-day say:

1. Anaerobic microbes, alone or associated with aerobic, may cause urinary infections which are benign.
2. These organisms play a preponderant or exclusive rôle in almost all, if not all, diffuse infections which are grave, with a tendency to gangrene.
3. Anaerobic micro-organisms may be the agents of a general infection, as well as the aerobic.

A Case of Bacteriuria.—DR. NANU.

Treatment of Bacteriuria by Urotropin.—DR. JANET.—Bacteriuria is due to the escape of micro-organisms by way of the kidney; its source most frequently is by way of the intestine. It is more frequent than is generally supposed. It can only be recognized by the immediate examination of the urine by means of the centrifuge, adding a few drops of ammonia to the urine to be centrifugalized.

It is rebellious to every surgical treatment, bladder lavage and instillations, since its source is outside of the bladder; medication by the mouth is the only way in which it can be modified. Salol in large dosage seems to have a good influence, but its use cannot be long continued, because it is too irritating to the stomach and to the kidneys.

Urotropin in doses of .25 gr. to .75 gr. taken at meal time, causes immediate clearing of the urine, and this will be so as long as the drug is taken; the cloudiness will reappear, however, as soon as the drug is withdrawn. Still, this drug has the advantage over salol that it is perfectly tolerated by the stomach and kidneys.

In order to arrive at a complete cure of bacteriuria we must not neglect treatment of the bowels. These patients are generally constipated, or have a mucous-membranous enterocolitis. Massage of the intestine can render good service in such cases.

The combination of medication by the mouth and care of the bowels may give us hope of complete cure—the author's experience is too short for him to be certain, though he has known cases to go months without a relapse, still he has not yet ventured to affirm that the cure in these cases is complete.

DR. HOGGE.—Bacteriuria properly so called (that is to say that due to the coli bacillus, in contradistinction to microbiuria) is a very common affection, if we take the trouble to look for it and if we recognize the symptoms. The more he sees these cases the more he is convinced that there is a marked distinction to be made between them. Some are rapidly and easily cured, whether by internal remedies or by antiseptic irrigations; other cases are almost incurable, so rebellious are they. In these latter cases then, manifestly the source of infection is outside of the urinary tract. He has used urotropin for more than a year in a very large number of cases. It is a remedy that acts well, nearly as well as salol, and we can give as much as 3-4 grammes daily when salol is not tolerated, which is very seldom.

Whether the bacteriuria results from catheterization (prostatics, etc.,) or has its origin outside of the urinary tract, this affection should preserve its name as long as there is no pus in the urine; there is no cystitis without pus.

Relation between the Toxicity of the Urine and Its Immunization. Experimental Researches.—DR. BRUNI.

On Neuropathic and Psychopathic Disturbances Due to Urinary Lesions.

—DR. GUISY.

1. A lesion in the urinary tract in individuals hereditarily predisposed and who have never had any neurotic manifestations up to the time of the onset of the urinary lesion, may cause a sudden nervous or hysterical outbreak or psychical disturbance.

2. The cure of the urinary lesion may cause the neuropathic or psychic disturbance to disappear, save in rare instances.

3. In the case of urinary patients the onset of the neurotic outbreak occurs rather suddenly;

4. With urinary patients a lesion apparently insignificant may produce grave conditions.

The Progress of Minor Surgery of the Urinary Tract.—DR. LAVAUX.

Vesical Disturbances Due to Neurasthenia and Their Treatment by Electricity.—DR. COURTARD.

Remote Results of Structural Lesions in Urethro-stenosis.—R. HARRISON, F.R.C.S.—The conclusions arrived at by the author from an examination of the cases detailed by him are summed up as follows:

1. That there is evidence to show that in peri-urethral strictures of the deep urethra the effects of divulsion as practised in Perrève's and Holt's operations may be limited to rupturing the dense stricture bands in the submucosa of the urethra, whilst the mucous membrane itself escapes any serious injury or laceration and is merely restored by stretching to its original dimensions. Here a permanent cure may result. On the other hand, where the mucous membrane is in itself the seat of stricture and forms part of the latter structurally, it is necessarily torn or lacerated by the process of a sudden divulsion, and the pathological condition consequently becomes assimilated with that of traumatism of the urethra from external violence accidentally applied, which are followed by strictures of the most contractile and recurrent form.

2. That there is evidence to indicate that where the entire thickness of a stricture can be included within an incision of moderate dimensions made by an

internal urethrotomy the normal calibre of the urethra may be completely and permanently restored. When this happens it may be concluded that all the fibres of contraction constituting the stricture were divided at the time of operation. And further that the converse is equally true. There is also evidence to show that the absence of recurrence under such circumstances is not necessarily dependent on the use of a bougie, though the latter is a precautionary measure which should invariably be advised.

3. That in the case of multiple strictures or strictures of the deep urethra of considerable dimensions either in their length or thickness, treated by an internal incision of corresponding proportions, apart from other considerations, the tendency to recontraction and recurrence, with an additional amount of cicatricial material, is frequent; the latter being probably due to the circumstances under which healing takes place in wounds of these dimensions so situated.

4. That lesions of the urethra demonstrate in various ways the poisonous effects that unprotected and confined urine is capable of exercising, both on the body generally and on the tissues in contact with it, and that the liability to such effects is greatly diminished where drainage and irrigation render these conditions of the urine unlikely.

5. That in the case of recurring strictures previously treated by incision and in primary strictures of such length or extent as to require an internal section of a corresponding size, or as to which there might be doubt as to whether it would be safely possible so to include them, for the purposes of the operation and its results such wounds should be made with due regard to other surgical principles in addition to the one pertaining to the division of the contraction.

6. That there is direct evidence to show that the tendency to recontraction and recurrence of stricture after internal urethrotomy is largely diminished by the concurrent employment of systematic and efficient urine and wound drainage, such as the combination of external urethrotomy, or perineal puncture, affords.

Remote Results of Surgical Intervention in Stricture of the Urethra.

—DR. HÉRESO.—Few operations have raised more discussion than those practised upon the urethra for stricture. However we may differ as to the value of the different forms of intervention, we may say that the procedure of surgeons varies but little, and that there is more than one point concerning these operations which has been definitively attained.

To-day we understand better the etiology, the pathological anatomy and histology of stricture, and by the light of this acquired knowledge the indications are better understood and intervention more efficacious.

Internal and external urethrotomy and resection of the urethra are the operations to the remote results of which the author calls attention.

Internal urethrotomy is done for stricture due to gonorrhea. Recent research shows that in the blenorrhagic urethra there is a more or less total sclerosis, and hence mere section of a stricture cannot give a definite cure. Dilatation is an indispensable complement to internal urethrotomy.

The time necessary for the reproduction of a stricture is variable, and depends on the more or less regularity with which dilatation has been practiced. The author has seen stricture recur within three weeks after section, in another four months, in a third six months; in other cases in one and one-half years, two years, three years. It has been observed thirty years after.

External urethrotomy was devised for strictures called impassable, or when the stricture is complicated with fistulæ, indurations, perineal callosities.

Some surgeons have tried to have this operation supersede internal urethrotomy, maintaining that a stricture is better cured. The author thinks them mistaken, and has not been able to find in the literature evidences of better results.

Dilatation following external urethrotomy is indispensable, just as it is in internal urethrotomy. With or without dilatation recurrence takes place. In one case of Boeckel's it was after eight years. Post, VanBuren and Sayer have reported cases remaining cured after twenty, twenty-one and twenty-three years.

Resection of urethra conforms to strictures of traumatic origin, single as a rule, and where they do not extend beyond three centimeters of urethra. The condition essential to a good resection of the urethra followed by suture is that it shall not suppurate. In fifteen cases reported in the thesis of Noguès, cure was observed after from six months to eight years.

The author formulates the following conclusions:

1. None of the cutting operations for stricture are able to give a definitive cure, except resection of the urethra in certain determined cases.
2. Internal urethrotomy, employed in stricture due to gonorrhea, where there is a sclerosis more or less total of the urethra, is an operation which only facilitates dilatation.
3. The time of recurrence is variable from weeks to several years, depending on the nature of the stricture and of the more or less completeness of the dilatation.
4. External urethrotomy cannot cure any better than internal urethrotomy.
5. Resection of urethra under certain conditions which have been determined may give a definite cure.
6. All cutting operations must be followed by persistent and careful dilatation.

Remote Results of the Different Methods of Treatment of Stricture of the Urethra.—DR. ALBARRAN.

—The author gave his conclusions. The study of comparing the remote results obtained by the different methods of treatment of urethral stricture, leads us to separate those strictures called inflammatory from those which are of traumatic origin. In each of these two categories we must further make a number of subdivisions, according to the situation, number, extent, and the degree of the stricture itself, thus, according to the case, the same treatment may give absolutely unlike results. We can only say in a very general way what we may expect from the employment of any treatment.

1. *Uncomplicated inflammatory stricture.*—From the point of view of the frequency of recurrence we may class thus the principal modes of treatment; electrolysis, progressive dilatation, internal urethrotomy, external urethrotomy, resection and auto-plastic operations.

Electrolysis by the rapid method in one *séance*, gives more rapid recurrence than does dilatation. The remote results of electrolysis by the slower method appears to be a little better, but the published articles do not permit us to judge of the procedure from this point of view.

Progressive dilatation should be methodically carried out up to No. 60 Beniqué; it is necessary to endeavor to restore the suppleness of the canal, to suppress the bridles which the passage of the sound effaces, to cure the urethritis which accompanies the stricture and to dry up all the sources of infection, urethral and peri-urethral. By such means we may obtain good remote results by progressive dilatation, but, except in light cases, the results obtained can be con-

served only by maintainance of the urethral calibre by means of further use of the sounds at certain intervals.

Internal urethrotomy is hardly to be considered in the first stages as comparable to dilatation. It appears to give better results when we practice multiple sections than when a single complete section is done; but, no matter which method is employed, the results will not be durable unless after one or several operations it is possible to put the urethra into the condition mentioned above in connection with dilatation. Recurrence is to be feared as well after progressive dilatation as after internal urethrotomy.

External urethrotomy gives ultimate results superior to the preceding methods, but this operation is only applicable to limited strictures. Some patients are cured after external urethrotomy without having taken any after treatment; these cases are rare, and recurrence is hardly to be avoided except by careful regular dilatation following the operation.

Resection of the urethra in inflammatory strictures limited to the perineo-scrotal region gives ultimate results comparable or superior to those following external urethrotomy; when the stricture can be completely excised we may hope for a maintainance of the cure without after treatment. In the pendulous portion, resection of strictures expose to curvature of the penis.

II. *Inflammatory strictures complicated by tumors and urinary fistulæ*.—In these cases progressive dilatation and internal urethrotomy are insufficient. External urethrotomy, and, better still, resection, partial or total, give the best ultimate results.

III. *Traumatic strictures*.—Progressive dilatation cannot assure a lasting cure. The same may be said of internal urethrotomy, no matter what the number of sections. With these methods of treatment recurrence is rapid.

External urethrotomy gives better results, but exposes to recurrence in spite of subsequent care.

Resection of the urethra is the operation of choice; it succeeds better in traumatic stricture than in the inflammatory and can give at once definitive cure.

The following also read papers on this subject: DRs. HARMONIC, NOGUÈS, JANET, LEGUEU, LAVAUX, GOLDBERG, HINGSTON.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Wednesday Evening, October 17, 1900.

W. K. OTIS, M.D., Chairman.

An Improved Method for Performing Suprapubic Cystotomy.—DR. C. L. GIBSON.

This improvement consists in the method of drainage, using the same principle on the bladder that has been so successful in the creation of a permanent gastric fistula—generally known as Kader's operation.

In applying this operation to the bladder the author hoped for a three-fold purpose.

- I. Effective drainage of the bladder without leakage.
- II. Rapid closure of the fistula or discontinuance of the drainage.
- III. The creation of a permanent sinus which should allow of permanent but periodical catheterization of the bladder and in the intervals owing to its valve action, prevent escape of urine and do away with the discomfort of wearing a tube or dressing.

Unfortunately the weak point in this operation when applied to the bladder is in the absence of peritoneum.

Judging from a limited number of cases the author has found that indications I. and II. are satisfactorily fulfilled.

With regard to the fulfilling of indications No. III. the author believes that the desired result can be obtained, though probably it will require some more elaboration of the technique. Could the fistulous walls be lined with serous membrane, the case should give no difficulty. The author has made an attempt to drag the peritoneal fold further down on the bladder, but this was not successful.

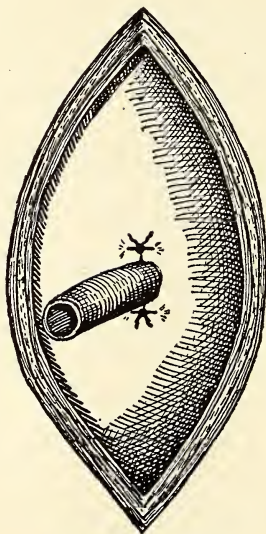


FIG. 1.—Tube Placed in Vesical Opening. A stitch on either side diminishes the size of the cut.

If other less serious measures fail to accomplish the desired result, the writer feels that he shall eventually resort to this last method. He believes so strongly in the efficacy of the fistula thus established that he considers that if once established it is practically devoid of risk. The chief danger would consist in the possible infection of the abdomen during the manipulations incident to the operation. While realizing his responsibilities in this direction, the writer would be quite ready from his experience in abdominal surgery to accept them with considerable confidence as to the outcome. This opinion is influenced greatly by the writer's belief in the advantages of the operation, which he is inclined to take seriously.

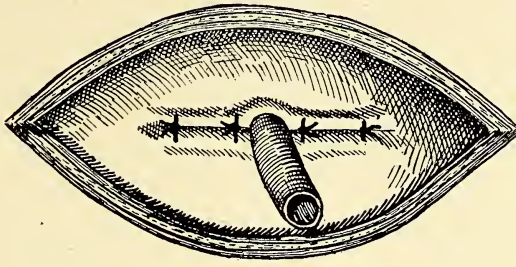


FIG. 4.—Second Row Tied. Operation completed.

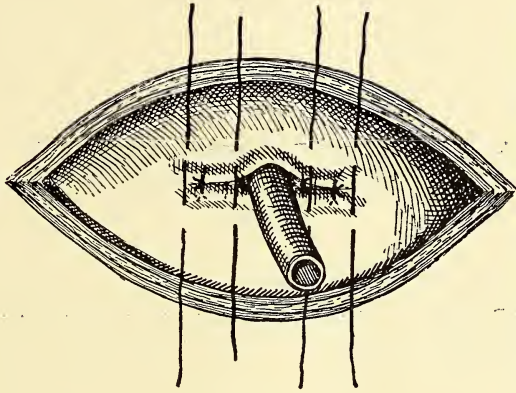


FIG. 3.—The First Row of Inversion Sutures has been Tied; second row in place, ready to be tied.

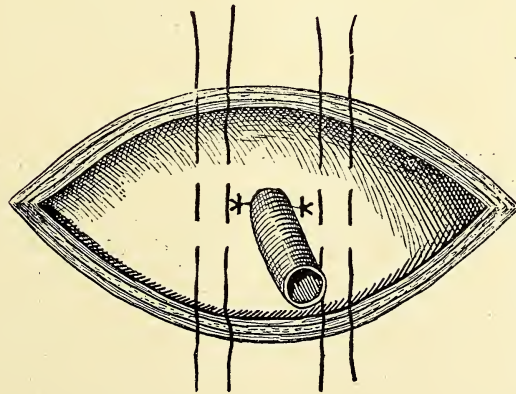


FIG. 2.—The First Row of Inversion Sutures in Place, Ready to be Tied.

As performed by the writer this operation consisted in snugly surrounding a tube of suitable caliber (32 F.) by an inverted cone of bladder wall (care being taken to secure a good denudation of the bladder), exactly as has been described for the stomach. The accompanying diagrams show the exact steps. The ends of the second row of sutures are left long, and are carried through the abdominal wall, which is closed snugly by sutures through the musculo-aponeurotic layer, only sufficient space being left for the exit of the tube.

The writer has had a special double tube made by Stohlmann, Pfarre & Co., which allows of convenient irrigation of the bladder without any disturbance or interruption of the drainage.

The drainage is effected by leading the tube into a receptacle which does not need to be filled with any fluid. No siphon arrangement, or in fact any other extraneous aid is required to obtain perfect drainage without the slightest leakage alongside of the tube.

In conclusion the writer would beg to say that he offers this procedure as a

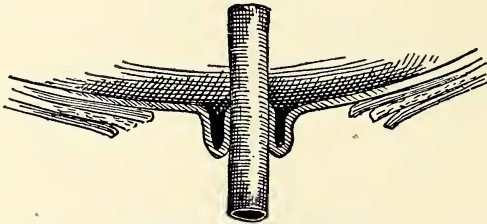


FIG. 5.—Result of Inversion as Seen from the Interior of the Bladder
When the tube is withdrawn, the falling together of the inverted vesic folds acts as an efficient valve.

thoroughly efficient and simple method of drainage, also as the speediest method of securing closure of a fistula. Besides, he hopes by further efforts to give it a recognized position among the measures destined to relieve chronic urinary obstruction.

DISCUSSION.

DR. GUITERAS said it seemed to him to be an excellent procedure, because with a fistula of that kind a man practically has no fistula. At the same time he is in such a position that he can be treated at any time. Of course in old prostatic cases one of the greatest difficulties is frequent attacks of retention, and in these cases if we perform supra-pubic cystotomy for drainage it is almost impossible to heal up the fistula that remains after the operation. In an operation of the kind described by Dr. Gibson we have the advantage of relief in one attack of retention and without having any leakage afterwards, at the same time having an opening remaining through which at any time we could relieve subsequent attacks of retention. He hoped that when Dr. Gibson published his paper he would publish illustrations so to make it easy for others to practise.

DR. JOSEPH WIENER, JR., said that the idea of introducing into bladder surgery the permanent drainage so successful in stomach surgery was not new, that is the

idea was not new. As long ago as five or six years, he thought six years, Witzel's method of gastrostomy, which gave brilliant results and still did, and which was identical with Kader's, except that it formed an oblique fistula instead of a straight one, was tried a number of times abroad, and also in this city, in bladder surgery. The results were almost uniformly bad, and the operation was entirely discarded so far as he knew. The tube did not stay in place; it sometimes slipped out of place after two or three days and the fistula contracted so rapidly within a few hours, that when the surgeon was called to the case he was unable to re-introduce the catheter. He himself had charge of such a case five years ago in which the catheter slipped out and after three hours it was not possible for the doctor to re-introduce it.

If Kader's method was successful in giving us a fistula similar to the one we get in the stomach, the result would be ideal. But he was afraid it was a little premature to hope that at the present time the difficulty, such as Dr. Gibson mentioned, which was that we have no peritoneal covering to the bladder (because when we operate on the bladder we distend the bladder purposely in order to avoid injuring the peritoneum, and the bladder walls when sewn together do not very well adhere), could be overcome. It might be possible by making a superficial denudation of the outer wall of the bladder to get a raw surface, then introduce sutures through this raw surface and in that way get a fistula which would hold the tube in place, and would act as a valve at the same time.

DR. GUIERAS said he did not understand Dr. Gibson's operation was for permanent drainage.

DR. GIBSON said he suggested it for both purposes, temporary and permanent.

THE CHAIRMAN said it seemed to him the operation had very much to recommend it, and that the simplicity of the operation and the very fair prospect it gave toward solving an exceedingly difficult problem made it worthy of their most serious consideration. Those unfortunate persons who were the subjects of permanent supra-pubic drainage were not only subjected to the irritation caused by the tube, to the unavoidable leakage of urine and excoriation of the skin about the fistula, but also to the extremely disagreeable odor of decomposing urine, which was always more or less present, which rendered them unpleasant to their friends as well as to themselves. If that operation proved successful all that would be avoided, and he congratulated Dr. Gibson on the results which he had already obtained.

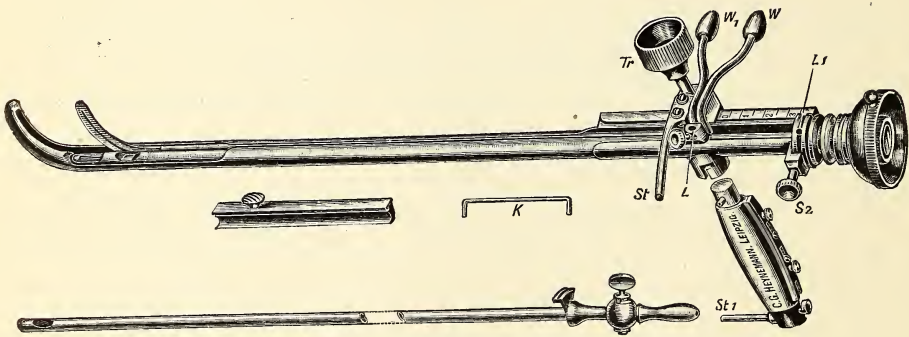
Treatment of Syphilitic Ozena by Heliosine.—DR. MONORY. The author reported a case of syphilitic ozena which had resisted ordinary local and constitutional treatment for a long period and had improved rapidly on heliosine. This improvement had now lasted for nearly a year.

DISCUSSION.

THE CHAIRMAN said that the lack of discussion was undoubtedly due to their lack of acquaintance with this drug, which certainly seemed to have been of especial value in the case narrated, and he should be very glad to make use of it at the first available opportunity.

The Wossidlo Cystoscopic Prostatic Incisor.—DR. T. M. TOWNSEND (for Dr. Valentine) said that Dr. Valentine had instructed him, before demonstrating the Wossidlo cystoscopic prostatic incision, to call attention to the new sheaths for cystoscopes recently devised by Kollman and Wossidlo. These metal sheaths are heavy enough to protect the instruments they contain from accidental injuries; they are made to hold all forms of cystoscopes and by the continuous generation of formalin vapors to keep the cystoscopes aseptic.

The Wossidlo cystoscopic prostatic incisor was first described by Dr. Valentine on June 8, 1900, before the Surgical Section of the American Medical Association. It, at first glance, appears a modification of the Bottini incisor, but closer examination shows it to be really a new instrument, entirely changing the character of the operation for the relief of prostatic obstruction. Bottini's instrument and all of its modifications could not meet the surgical objection that searing a path for the urine through the prostate is done by them entirely in the dark. Wossidlo's new instrument, which he had the honor of showing, overcomes this by enabling the surgeon to see fully and thoroughly the position and state of the prostate, and also to see the incandescent blade enter the obstruction. The opera-



PRESENTATION OF NEW INSTRUMENTS.

tor is thus far better able to give his blade direction than if guided only by the recollection of a cystoscopy even immediately preceding the operation.

Wossidlo's cystoscopic incisor consists of a flattened tube containing the cystoscope, the incising apparatus and the water-cooling arrangement. Those having much to do with delicate instrumental work cannot but envy our eminent European colleagues who have the advantage of the intelligent co-operation and fidelity of such skilled artisans as C. G. Heynemann, of Leipzig, who constructed this instrument. It is really wonderful how he could, even under the direction of so able an operator at R. H. Wossidlo, of Berlin, produce so small a tube which could contain such effective instruments, which in their totality do not exceed the calibre of the Bottini incisor or of a Nitze cystoscope without in any way limiting the efficacy of either.

The cystoscopic tube is entirely removable, as it will be evident in considering the technique of the employment of this instrument.

After the bladder is cleansed in the usual manner, and its last clear wash-fluid is allowed to escape, the instrument is prepared by removing the cystoscopic attachment and substituting for it the inflating tube. In patients whose bladder

walls are not especially foul, the preliminary washing can be as well done without a catheter, using the inflation tube of the Wossidlo incisor instead.

The instrument is inserted as in any cystoscope and the bladder distended with air, as was first proposed for cystotomy by Bristow, of Brooklyn.

The inflating tube is then withdrawn and the cystoscopic tube made to take its place. The handle of the Wossidlo incisor is then attached and to its lower metal projection (St. 1), one of the conducting cords of the incisor battery is attached to the metal projection (St.) of the incisor part of the instrument. The battery for this purpose was constructed for Dr. Valentine by Tiemann & Co., of this city. The in and out-flow tubes of the irrigator are attached to the nipples (IV. IV.) and the light-battery clamped to the collar of the cystoscopic attachment.

When the bladder has been examined, as in any cystoscopy, the instrument is turned to bring the prostate fully into view. Owing to the water current that plays through it, this can be done without materially increasing the heat of the instrument. When the obstruction is well brought into view, the screw (Tr.) is turned towards the left. As this progresses, the heated blade of the incisor comes into view and under guidance of the eye can be caused to sear its way into the prostate. Naturally, when it has entirely entered the gland the blade is no longer in view, but when the screw is reversed, after the searing is accomplished, the operator can assure himself of the work done, of the positive complete return of the blade to its sheath, and of the need, if any there be, of making further lateral incisions. Should the smoke from the searing obscure the view, the cystoscope can be withdrawn and the inflation tube inserted, to carry in new air, without disturbing the apparatus at all.

Another cardinal advantage of this instrument is that it eliminates all guess-work regarding the condition of the incisor-blade; as it is in sight even to its last rim as it enters the prostate, there is no possibility of its proper heating being at all questionable. With instruments not so provided, the risk is too great to be calmly incurred, and may account for many of the failures in cases proper for searing.

THE CHAIRMAN, DR. OTIS, exhibited his electro-cystoscope and said that so far as he was aware all attempts to construct the electro-cystoscope in this country had up to the present time proved failures, and moreover, when cystoscopes of foreign make became injured, or the mirror backing the prism became dim, it had been found necessary to return them to their foreign makers in order to have them repaired, often having to pay a second duty when they were returned. This had led him to make several attempts to have those instruments manufactured in this country. At last, through the skill and perseverance of Messrs. Wappler & Co. of the Electric Controller Company, he had succeeded in producing an instrument fully equal to any of foreign manufacture in construction, and also possessing several important improvements and giving a better optical field. The prism at the distal end of the instrument has been replaced by a plane mirror, the window being filled with a section of glass tubing as in the case of the window for the lamp, thus doing away with the angles formed by a prism at the end of the instrument, being fully as effective and easier of construction and repair. The most important point in the construction of this instrument is the very great gain obtained in the inside calibre of its tube, thus allowing the use of larger lenses and the admittance of more light without increasing the calibre of the instrument. The difference between the outside calibre of the foreign instruments and the cali-

bre of the lenses used is very striking, and the reason for this can only be ascertained by dissecting one of these instruments and finding out just how they are constructed. It will be found that they consist of an outside metal tube, which is utilized to carry the current of electricity from one pole of the lamp. Inside of this is a second tube of some insulating material; then a third tube of metal, which carries the current to the other pole of the lamp, while in the Leiter instrument there is a fourth metal tube used to form a wholly unnecessary movable telescope. When we consider these various layers it is not difficult to account for the disappearance of valuable space. The instrument which I have here consists of a single metal tube no thicker than the outside tube in the other instruments, the lenses being the full size of its inside calibre. This tube, as in the other case, carries the electric current from one pole of the lamp, the other current being carried by an insulated copper wire so fine that it can be accommodated by cutting out the metal rim in which it is necessary to set the lenses at one point and which does not interfere at all with the field of view. This question of increased light is an exceedingly important one, and lack of light has been a frequent cause of failure in cystoscopic examinations. The picture given by larger instruments than those of the regulation type, with larger lamps and greater access of light, is so much clearer and more distinct that I almost always use larger instruments, even as large as 30 French, and it is the exception when I use the little regulation instrument of 22 French. In addition to its other advantages this new instrument is provided with a screw cap fitting over the proximal optical opening, which permits its immersion in antiseptic fluids without injury, and especial care has been taken in making the angle of the beak smooth and easy of introduction.

It cannot be denied that very great progress has recently been made in the facility with which the ureters can be catheterized in the male subject, but at the same time it must be admitted that this is usually a difficult, oftentimes an impossible operation. The very fact that so many different forms of instrument have been devised for its accomplishment demonstrates this. I do not propose to discuss this question, but to present to you an instrument which has had nearly a year's existence, and which in my hands has given more satisfaction than any other. It is of the convex type, and identical in principle with the Brenner instrument, with the very important difference that whereas in the latter instrument the eye piece renders it necessary to bend the catheter at the proximal end, in this instrument the eye piece is deflected or turned out of the way by the introduction of a small mirror set at a suitable angle, and acting exactly the same as the prism in the ordinary cystoscope. This renders the route for the catheter to the ureter *direct*, and therefore permits the use of rigid metallic instruments if desired, and it is frequently possible to pass such instruments when the more flexible catheters cannot be induced to enter the ureteral opening. Again, metal instruments are susceptible of easier methods of disinfection, and it is frequently serviceable to touch some point in the bladder with a rigid metallic instrument in order to judge of its consistency, or to sound a diverticulum for stone, while at the same time this direct route also permits the easier introduction of soft instruments also. The second important point in this instrument is the possibility of catheterizing both ureters with a single introduction of the instrument, which is effected by having two tubes for the catheters, which are fastened to the under side of the instrument, their distal openings being just at the lens of the optical apparatus when in position. One of these tubes is firmly soldered to the cystoscope; the other is free, but soldered to the obturator of the tube one. When the obturator of tube one is

introduced the second tube slides so that it lies next to and is firmly fixed to tube one, a cut being made in that tube to allow the soldered joint to slide in. In using, the instrument is introduced and the left ureter located. The obturator is then removed from the tube on the left side and the catheter introduced well into the ureter; the obturator of the right tube is now removed, taking with it the left tube, which slips out over the catheter and leaves it free in the urethra alongside of the cystoscope. The instrument is then moved over and the right ureter catheterized through the right tube. While this instrument is rather difficult to describe without illustrations, it is in reality extremely simple.

DR. VAN DER POEL, said he thought the instrument of Dr. Wossidlio, shown by Dr. Townsend, a very ingenious one, and one which ought to help us considerably when we have a Bottini-Freudenberg operation to perform, and although he had not had the pleasure of using it, yet he thought it would be difficult when operating to use both parts of it satisfactorily at the same time. The advantage over the older method in any case would be that it would be only necessary to pass one instrument, instead of first being obliged to use the cystoscope, and after that the cauterizing instrument.

When in Paris last summer, Dr. Bierhoff, who had with Dr. Freudenberg, of Berlin, invented a somewhat similar apparatus, had informed him that up to that date they had found it impossible to use satisfactorily both parts of their instrument at the same time, which objection he hoped would not hold good with the present one as exhibited.

It certainly would be of great advantage to be able to look into the bladder and operate at the same time, instead of, as it were, cutting in the dark, which we do at present, although we should always, if possible, use the cystoscope first.

As regards Dr. Otis's instruments, he thought that both were most ingenious and well thought out. The simple cystoscope, as far as one could see without having used it, presented very great advantages over those at present in general use. It certainly would seem to give us a much larger field of operation than either the Nitze, Albarran or Leiter instruments, and we all know what a tremendous advantage a large field is when working in the bladder.

As to the cystoscope for catheterizing both ureters, it seems most simple in its mechanism, and doubtless will simplify very materially this not infrequently very difficult procedure, but without practical experience and trial it is rather difficult to criticize such instruments very intelligently. One advantage, however, and a very great one for us, is that they are made and can be repaired in New York, whereas with the European cystoscopes, when out of order, and repairs requiring special technique are necessary, we are obliged to send them to Paris, Vienna, or Berlin. These are instruments made in America, and can be repaired here.

DR. GUITERAS said, regarding the instrument of which Dr. Van der Poel had spoken, namely, that exhibited by Dr. Bierhoff in Paris, the Freudenberg-Bierhoff instrument, that it was composed of the Bottini instrument and a cystoscope, but as the speaker remembered it the cystoscope was pushed out of the convexity of its shaft and unless it was exactly in position when the instrument was introduced it was liable to scratch the urethra. He also did not think that when the cystoscope was pushed out you could watch the blade as it traveled through the prostate.

Regarding the Wossidlio instrument, he considered it the most beautiful, the most ingenious and the most perfect instrument ever made, although very complicated. It is also flat antro-posteriorily. It is a light instrument, however, and

for a combination of a cystoscope and Bottini incisor he did not think it possible to improve on it.

Regarding the Otis cystoscope, of course he had not had an opportunity of trying it as yet, but from the description Dr. Otis had given of it to-night it seemed to be a perfect instrument and one we have long desired. He only hoped to have the opportunity of trying it soon.

NEW YORK DERMATOLOGICAL SOCIETY.

STATED MEETING, SEPTEMBER 25, 1900.

HENRY H. WHITEHOUSE *in the Chair*.

A Case of Lupus Erythematosus.—Presented by DR. HOLDER.

This girl was eighteen years old. For the last six years has been at Randall's Island in the feeble-minded school. Formerly had epileptic attacks, but none within the last year.

Last July there were about six cases of ivy poisoning in her ward and as far as can be ascertained she passed through a regular attack. The nurse who has charge of her, said her eyes were swollen and the whole face very edematous. The case was treated with zinc lotion. The case was first seen by the doctor September 1st, and the diagnosis made. During the last four weeks, there has been no change in the condition. The lesions number about twenty on each side of the head. The attendants were sure that no erythema existed previous to the dermatitis.

Hypertrophy of Tissue Over Hands and Feet Simulating Acromegalic Form of Elephantiasis.—DR. SAMUEL SHERWELL presented this case.

The patient was Mrs. W. G., 63 years of age, a German by birth. She was married at the age of 24. She has been a widow during the past few years. She has had six children, four of whom died of infantile disease; the other two are living and well. She has enjoyed health of exceptional kind until the menopause, which occurred about twelve years ago; then a severe neuralgia or rheumatism occurred. About two years since the first symptoms of the present trouble appeared; the pains which had been severe primarily in the lower extremities moderated, and then began to increase gradually in the upper extremities; then a fearful pruritus became manifest in the parts now affected, which is more or less general over the body. The lesions such as are now shown are gradually getting worse.

The clinical points are the absolute increase in size of hands, forearms and feet, with thickened cutaneous and subcutaneous tissues overlying, and resembling elephantiasis. There are small fibrous growths, superficial on some aspects, and others apparently of the same structure subcutaneous, notably two or three in the cervical region, did not to him appear to be glandular.

DR. PRINCE A. MORROW would accept the diagnosis of eczema. He thought the diagnosis of acromegaly open to doubt.

DR. KLOTZ stated that the condition of the skin presented by the patient was essentially short of prurigo. The age of the patient, however, and the history would probably make us hesitate in making that diagnosis.

DR. JOHN A. FORDYCE did not think it was a case of eczema. Such cases should be more thoroughly examined before a positive opinion was expressed as to the diagnosis. He agreed with the opinion expressed by Dr. Lustgarten that the skin changes might be due to a leucemia or pseudo-leucemia. The patient presented masses of enlarged lymph nodes which suggested the condition mentioned.

DR. FOX believed that the reddened, thickened, scaly condition of the skin were the symptoms of a chronic eczema which undoubtedly depended upon the general condition of the patient, and whether it be a case of true leucemia or not. The swellings of the hands and feet were due to the infiltration of the skin. There was no enlargement of the bones whatever.

DR. EDWARD B. BRONSON regarded the case as primarily one of pruritus; the irritation caused by this with the prolonged scratching would account for all the changes in the skin, and he thought it not impossible that the enlargement of the glands might be due to the same cause, in much the same way as we account for gland enlargements in Scarpa's triangle in prurigo. He did not find any definite signs of leucemia and thought it unnecessary to assume the presence of any such disease. There was eczema present, but not sufficient to account for the amount of pruritus.

DR. SIGMUND LUSTGARTEN found no symptoms of acromegaly. A number of cases were described as cases of acromegaly when there were lesions of the skin accompanied by intense itching and a chronic thickening of the skin. In examining the woman he was struck by the fact that she had groups of hard glands in the supraclavicular region which could not be attributed to the skin lesion because these glands derive their supply and are controlled by intra-thoracic vessels and are not so intimately connected with the skin. He advised a more careful examination of the glandular system, the spleen, the blood, etc., and asked that more could be heard of the case.

DR. WINFIELD did not accept the diagnosis of acromegaly. He had seen a number of cases that were not at all like this one. He thought probably the thickening of the skin was caused by the pruritus and chronic irritation from scratching.

DR. HENRY H. WHITEHOUSE agreed with Dr. Bronson's statement regarding the enlargement of the glands in the neck. He also thought the eczema was sufficient to account for the infiltration and thickening of the tissues. He could make out no enlargement of the bones, but agreed with Dr. Lustgarten that further investigation of the case was highly desirable.

DR. SHERWELL brought the case before the society because it presented conditions of interest. He could not account for the great hypertrophy and thickening of the tissues as produced by a simply eczematous state in spite of the reasons that have been adduced. He had never seen the same sort of glandular affection. Since he first saw the case it has somewhat gone down, the pruritus remaining. At first the hands were more like "pudding" and there was in his opinion thickening of bone. He believed that he found the phalanges considerably thickened. The thickening and confining itself to that particular region is the unaccountable thing. This patient had been under his care for some time and little or no im-

pression could be made upon the condition by treatment, although he had tried a great many things. The speaker stated that he had never seen a case of acromegaly, but it had occurred to him that this might belong to that class of cases. He believed there was at any rate some obscure nervous phenomena behind it.

A Case for Diagnosis.—DR. GEORGE HENRY FOX presented a patient from the New York Skin and Cancer Hospital. The eruption began four and a half years ago on the thigh and had rapidly spread over the body. The hair began to fall out. When in the hospital the trunk presented superficial ulcerations which came spontaneously. There was no itching to speak of. He complained mainly of a tightness or drawn condition of the skin. His general condition had improved while in the hospital under the application of soothing ointments—the salicylic acid ointment had been used to remove some scaly or verrucous patches which were upon the body. Fowler's solution was given, but had to be discontinued. The patient was now taking acetate of potassium. Different diagnoses had been made in this case. There was marked purplish color of the skin appreciated more by day than by night. The scaling that takes place would be more marked had the skin not been greased. The patient's general condition was better and the eruption had improved.

DR. PRINCE A. MORROW was not ready to express an opinion as to the nature of the trouble. It did not have any typical features but certain scaly patches about the buttocks suggested lesions met with in lupus erythematosus.

DR. HERMANN G. KLOTZ asked if there was not an usually greater amount of scaling present than was visible under the conditions to-night.

DR. FOX answered in the affirmative.

DR. KLOTZ: so far as he could see there existed in the case a general dermatitis with exfoliation, which began on the flexor surface of the lower extremities. He therefore could not see why the diagnosis of dermatitis exfoliativa or pityriasis rubra should not be made.

DR. FOX stated that the scaling was perhaps the principal feature of the case.

DR. EDWARD B. BRONSON did not regard it as a case of dermatitis exfoliativa. He called attention to the fact that the temperature of this skin was not raised.

DR. GEORGE THOMSON ELLIOT stated that when he saw this case, he believed it was last May, it presented different appearances than now. It was agreed by some present that it strongly resembled a case shown by Dr. Lustgarten at his house, a case of mycosis fungoides as he thought, but which Dr. Whitehouse and himself thought to be one of sarcoma owing to the appearance of the arm and the cyanotic condition present.

DR. HENRY H. WHITEHOUSE said he was under the impression that Dr. Lustgarten presented the case Dr. Elliot refers to as one of sarcomatosis; he remembers giving an undecided opinion himself in regard to it.

The patient here to-night was previously presented by Dr. Fox, but at that time the skin presented an entirely different appearance. He thought the general consensus of opinion then was that it was a case of mycosis fungoides, which disease it resembled more closely then than now.

DR. GEORGE HENRY FOX said that the case was brought to the Vanderbilt Clinic with a diagnosis of mycosis fungoides. It struck him at that time that it looked more like pityriasis rubra and that was the diagnosis entered. It had been his good fortune to see a goodly number of cases of mycosis fungoides and all

were alike in their essential features. He had never seen a case of *mycosis fungoides* in which, after it had developed, there could be much doubt as to the nature of the disease. The appearance of the patient when he first saw him and his subsequent study of the case lead him to the conclusion that it was not one of *mycosis fungoides*. The general condition of the skin was unlike the premycotic stage of that disease. As to the case presented he was inclined to adhere to the diagnosis of *pityriasis rubra*. The reddened or purple condition of the skin, the drawn or tightening sensation, the atrophic condition gradually increasing and the scaling, although not in the typical large flakes, is similar to other cases of *pityriasis rubra*; the loss of hair is precisely similar to one case recalled. He was inclined to think that the atrophic condition of the skin would continue and the scaling become less and less, the skin more drawn, and finally a fatal termination take place from exhaustion. The patient's condition had improved during the past few months. There had been no tendency to the development of tumors. He did not think it was a case of *mycosis fungoides*; it might be one of *sarcoma*. He would not make a positive diagnosis but would venture that of *pityriasis rubra*.

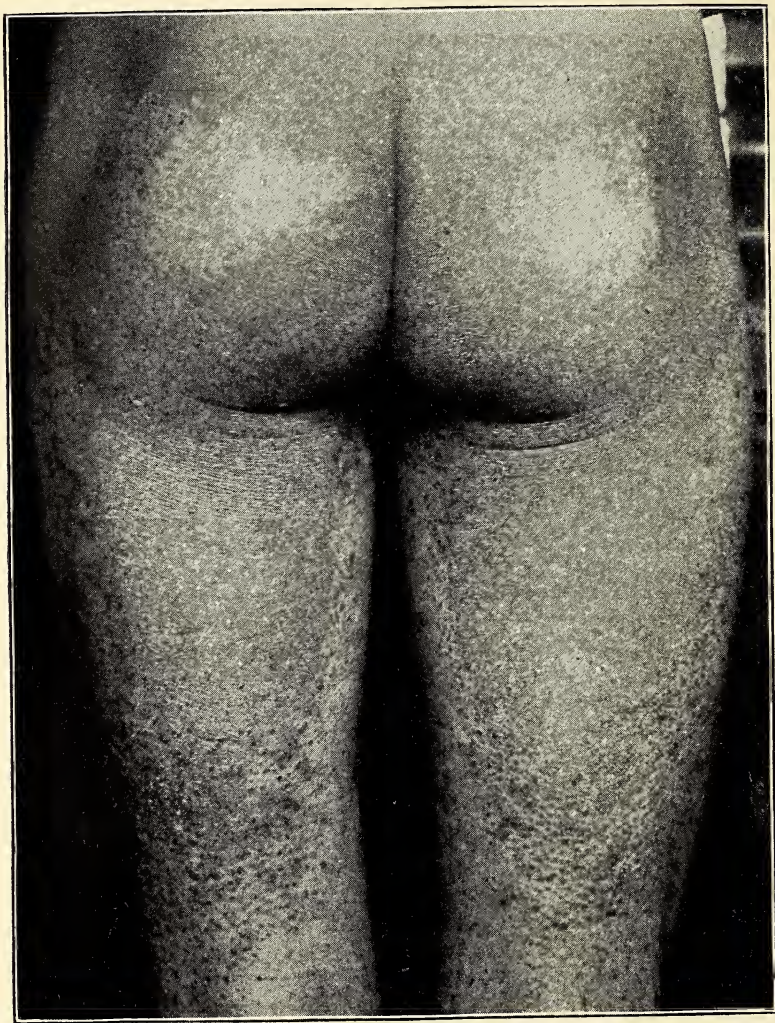
Pityriasis Rubra Pilaris.—DR. HENRY H. WHITEHOUSE presented this case.

The patient was a native of this country, a vigorous young man of 29 years, who had always enjoyed the best of health. His skin disease began at the age of eight, twenty-one years ago, and first appeared on the elbows and knees, from which it has never disappeared, but has slowly extended, developing later on the palms and soles and other regions. It has now become nearly universal. The only parts not affected are a small irregular area just above the navel, the inner surface of each thigh, the middle of each buttock, the flexor surfaces of the upper arms and both surfaces of the lower legs from the ankles to the knees. The eruption is markedly symmetrical, that on one side being exactly duplicated on the other. The scalp is the seat of a well marked branny *pityriasis*, the hair is thick and of normal texture. The skin of the face is smooth, shiny and very red and has a drawn tense appearance. The skin of the neck and trunk is diffusely red, thickened and slightly scaly. The lines of skin cleavage are plainly marked and lichenification is present around the neck, bends of the elbows and upper part of the chest. The diffuse character is lost at the outer border of the axilla and at the inner upper surface of the thigh where the eruption ends in numerous small discrete papules. The same diffuse eruption covers the elbows and entire forearms, the buttocks (except the free areas mentioned) and backs of the thighs. Just above the popliteal spaces are discrete acuminate papules displaying the horny plugs so characteristic of this disease. These keratosed papules are also seen on the extensor surfaces of the fingers and ulnar side of the hands, but are not so well marked. There is a very marked diffuse keratosis of the palms and soles and thickening of the nails and much epithelial deposit under their free ends. The patient complains chiefly of the pain and soreness in his hands, incident to his work. He keeps the skin comfortable by daily anointings with vaseline.

DR. FOX thought this was a typical case of the disease which he preferred to call *lichen ruber*. The description given of it by Hebra and by French writers all belonged to one and the same disease. He believed that Hebra should have the credit of being the first to fully describe the disease; the name given it by him was short and should be retained.

DR. SIGMUND LUSTGARTEN thought the name *lichen ruber* was concise and expressed its salient features and should be applied. Hebra's cases all died.

DR. GEORGE THOMSON ELLIOT could not agree with Dr. Fox. If Devergie described the disease he did not believe that Hebra should have the credit. Wilson described the disease lichen planus and Kaposi appropriated that. He could not



Pityriasis Rubra Pilaris.

see why we should give the credit to one person when some one else did all the work.

DR. GEORGE HENRY FOX said that Devergie first referred to the disease and gave enough of a description of it to enable us to recognize it; but, he did not give a full description as Hebra did. Hebra gave a most accurate description which was comparable to the classical description of lichen planus by Wilson.

As to the cure of lichen ruber he had never seen a single case get well; they appear to get well for a short time but sooner or later they relapse; nearly all the cases he had seen in former years, had died. He did not believe that the patient presented to-night would ever be in sound health again.

DR. BRONSON had seen cases that remained well for a period of five years.

DR. WHITEHOUSE stated in closing that he had had four or five cases and none had yet died, but possibly they have not been followed a long enough time. His present experience, therefore, will not enable him to agree with Dr. Fox in regard to the prognosis. His cases had never gotten entirely well; they had improved but relapsed. He considered this disease was in no way related to lichen planus.

Selections.

CUTANEOUS DISEASES.

The Theory and Practice of the Treatment of Ringworm of the Scalp.

—W. ALLAN JAMIESON (*Edin. Med. Jour.*, Vol. 7, 1900, p. 547).

After a critical review of the methods used the writer gives the following rules, which are to be observed in treatment: 1. The hair must not only be cut or shaved off, but the entire scalp must be kept bare of hair by razor or curved surgical scissors, till the cure is complete. In this there can be no compromise. 2. The scalp must be kept vigorously clean. It must be washed twice daily with a fluid superfatted potash soap and warm water. Such a soap only will keep the surface soft, polished and adapted for the reception of remedies. The application which has proved most efficacious in his hands consists of precipitated sulphur, 1 dr., salicylic acid, B-naphthol, and ammoniated mercury, each 10 grs., and lanolin, 1 oz. The ointment to be rubbed in for ten minutes slowly and carefully, twice a day. Whatever we use, this principle must be adhered to, to keep the permeable epidermis steadily saturated with substances hostile to the fungus.

A Contribution to the Study of Malignant Tumors Arising in Congenital Moles.—R. H. WHITEHEAD (Pathol. Laboratory of Johns Hopkins University. *Johns Hopkins Hosp. Bulletin*, No. 114, 1900, p. 221).

The question, whether melanotic malignant tumors, which originate in pigmented moles, should be classed as carcinomata or sarcomata, is still undecided. Both views are supported by competent observers. The object of the writer in presenting his two cases is not to throw new light upon this vexed question,

but to call attention to the fact that tumors may spring from congenital moles which represent the same process as those going on in the melanotic tumors, with the exception that they totally lack true melanotic pigment. The histological finding of two cases is reported. The subject of the first case, a white man of forty-seven years, presented a typical example, in an advanced stage, of the malignant melanotic growths which spring from the nevus cells of congenital moles—the nevo-carcinomata of Unna or the alveolar melanotic sarcomata of most authors. In the second case the tumor was obtained from a white woman fifty years old. In this case the processes which occur in the malignant melanotic tumors were undoubtedly going on—the development of a malignant tumor from the nests of nevus cells in a congenital mole, but with the exception that true melanotic pigment was not present. *A priori* it should be expected that such tumors can be found, as the nevus cells are not always pigmented, nor are tumors which arise in melanotic tissues invariably melanotic. The writer was not able to find the record of a similar case; even Unna makes distinct mention only of melanotic tumors.

Treatment of Dermatitis Exfoliativa Seu Pemphigus Malignus (Foliaceus)

—ADOLPHE BAGINSKY (*Die Therapie der Gegenwart*, 11, 1900).

Very good results have been obtained by the author from the following method of treatment. Ointments are entirely discarded. Daily bath of oak-bark; one kilo to one bath, of a temperature of 27-28 deg. C. of 6-8 minutes' duration were given; after the bath, the child was dried with cotton and thickly and completely covered with equal parts of zinc oxide and starch. This powder was repeatedly applied during the day. The child was packed in cotton. Neither fats nor any other liquids except the bath were used. With good nourishment and strict asepsis the author obtained better results than from any other method.

Absorption of Lupus Tubercles under the Influence of Smallpox.—ROBERT BERNHARDT (Dr. Elsenberg's Clinic) (*Gazeta Lekarska* (Polish), Vol. XX., 1900, p. 613).

The case reported by the author is of peculiar interest, owing to the fact, that microscopical examination of sections taken before and after the attack of variola form the basis of a study of the changes of the lupus formation after the attack of variola. The twelve-year-old patient was affected twice since his eighth year with lupus, occupying the wings of the nose, cheeks, upper and lower lips and sacral region of body. During his stay at the hospital one hundred and ten ctm. of anti-tubercular serum of Prof. M. Mencki were administered without any beneficent results to the patient, "in order to determine the value of the serum" (*cui bono?* L.) At the same time erysipelas of the face developed and the patient was transferred to the infectious ward, where after recovering from erysipelas he was affected with smallpox. When after recovery from the smallpox he was returned to the dermatological ward, the changes of the lupus upon the face were so remarkable that no characteristic features of lupus could be seen.

The face, nose and lips, formerly disfigured, presented a normal appearance and usual features. In the place of former tubercles, infiltrations and lupoid ulcers, a delicate, slightly infiltrated scar with entirely dry but scaly surface could be seen. In the scar neither tubercles, nor the defined dark brown colorations, which usually remain on the places of absorbed tubercles, could be noticed. In the sound region the lupus also underwent involution, but the sharply defined brown coloration could be seen here.

The author cut out a piece of skin from the place, the clinical features of which before the attack of smallpox were the same as the clinical features of the spot excised before the attack of smallpox. The sections were stained with hemoxilin, hematoxilin and eosin and by Unna-Taenzer's method.

From the comparison of microscopical pictures of the sections of the two different pieces of skin, the author concludes that the reason of the disappearance of the lupoid infiltration under the influence of variola infection lies in the degeneration and subsequent disintegration of the cells which formed those infiltrations. The giant cells especially underwent disintegration, as they were entirely lacking in the sections obtained from the skin which was under the influence of the attack of variola, while their presence was manifest in sections of lupoid skin which was excised before the attack of variola. Both the high temperature and the specific variola toxin probably played an important part in the decomposition and absorption of the cells. The migratory cells also took part in the absorption, as their presence was abundant in the neighborhood of the lupus nests. But not all cells underwent degeneration. Here and there groups of epithelioid cells could be seen. And those cells are the starting point of a new outbreak of lupus, which usually takes place as also happened in this case, several weeks later, with a greater tendency to ulceration of the lupus tubercles than before the attack of variola.

Several Unusual Cases of Skin Diseases Observed in Indianapolis; Xanthoma Tuberousum, Keratoderma Palmaris and Blastomycosis.—A. W.

BRAYTON, M., Sc., M.D., (*Indiana Méd. Jour.* Apr. 19, 1900) (reprint).

Blastomycetic Dermatitis.—A Study of the Organisms Involved. CATHERINE

GOLDEN (*Ind. Med. Jour.*, Apr. 19, 1900, p. 165).

Although Dr. Brayton assumes only the modest rôle of a "collector and reporter" of dermatological cases, yet the array of cases he publishes is so striking and of such clinical interest that we regret not being in a position, on account of lack of space, to report literally in full, but must limit ourselves to a few more striking examples.

1. Xanthoma tuberousum in a woman of thirty-nine years of age. The tumors, of three years' duration, form yellow masses on both lids, invading the face, the knees, elbows, and particularly the anus and hands and the leg below the knees. These tumors were of a reddish brown cast, from the size of a grain of wheat to a Lima bean. Upon the palms the growth followed the entire series of lines, appearing as if strips of chamois skin were set in these lines, or as though the lines were covered with a paste of iodoform. The whites of the eyes were yellow, as though jaundiced. There was neither bile nor sugar in the urine.

2. Keratoderma palmaris and plantaris in four generations. The patient

was a man of sixty-five years. Multiple isolated points of keratotic tissue, thousands in number, formed a tessellated pavement over the palms and palmar surfaces of the fingers and thumbs to the nails. The same condition presented on the feet and toes. The thirteen children of this patient were affected from infancy. Nine are living; seven grandchildren are similarly affected. The mother of the patient was affected from infancy throughout life. The keratosis is more marked in winter; in summer the points and knobs wear down, but continue to grow. There was neither an inflammatory zone nor enlarged glands. When pulled out or shaved off with a knife blade, there is no bleeding. The under surface is red and glistening. The grains are the size of a millet seed to a rice grain; they would be cylindrical or polygonal and much elongated if not considerably worn down by attrition. The nails were normal; there was no excess of sweat or of sebaceous matter. There is no hyperemia, erythema, coincident hyperidrosis or seborrhea antedating the disease in the children or grandchildren. The excrescences appear in the first or second year of life. No one of the affected persons has an eczema, easily incited dermatitis, or other known affection of the skin.

3. Blastomycetic dermatitis in a man of fifty years of age. Toward the end of 1898 a red pimple appeared on the proximal phalanx of his right middle finger, painful from the beginning. In three months the pimple was the size of a bean and ulcerated at the top. The growth returned after several scrapings and cauterizations. When the writer saw the patient he had three open and undermining ulcers the size of a bean. The swollen margins were very painful. A diagnosis of blastomycetic dermatitis was made by the writer and the subsequent bacteriological researches proved its correctness. The ulcerations were removed under anesthesia, cutting wide of the affected areas. After ten days, tumefaction and pain reappeared in the skin at the upper margin of the wound and at the lower angle. The finger was amputated.

Dr. Golden put the scrapings of the finger in a weak solution (two drops in an ounce of water) of formalin. When examined microscopically a great many budding yeast organisms were found imbedded in the tissue and still alive. A mould was also found which had been growing profusely both in and on the tissue. Cultures were made in various (fourteen) media. The cultures were very slow in growth from the original material, though the growth increased in vigor with successive generations.

The author then gives a detailed account and description of the cultures obtained of yeast and of mould. Inoculation experiments have been made, but the author refrains from giving the outcome, as the observations are too recent to look for results.

A case of multiple cutaneous abscess is also described, which from its persistence and clinical features, Brayton thinks may be due to the sporothrix described by Flexner.

A Case of Kraurosis Vulvæ.—JULIUS HELLER (reprint from *Zeitsch. f. Gebur. und Gynak.*, 43, part 1).

Woman fifty-nine years old has been suffering since her girlhood with a vaginal discharge. Vaginal injections had been used until her fifty-fifth year.

Menstruation disappeared in her forty-ninth year. Since then she felt itching in the vulvar region, mostly at night. During the past six years white spots have appeared on the external genital organs, especially on both lips and clitoris. Hymen was intact. Under treatment consisting of local formalin applications, combined with the local use of ichthyol with equal parts of water and previous half hour applications of hot poultices the itching gradually subsided.

From microscopical examination of sections the writer draws the conclusion; kraurosis vulvæ is a chronic inflammatory process of the external genital organs, evoked probably by various irritations; collagen, fat, and the sebaceous glands disappear in the deeper layers of the skin, while in the upper layers hyperkeratosis takes place. Changes in the nerves could not be established. No micro-organisms were found.

Idiopathic Multiple (Pigment) Hemorrhagic Sarcoma (Kaposi).—JOSEF SELLEI
(*Monat. f. Prak. Derm.*, vol. 31, 1900, pp. 413-423).

Clinically this form is regarded and usually accepted by all observers as a distinct type, but concerning its etiology and pathology there are questions raised which as yet cannot be answered in a decisive manner. The writer, examining histologically sections of a case under his observation, endeavors to answer the question whether histologically the foregoing type is to be classified as sarcoma or granuloma. Taking Török's definition of granuloma as a standard he claims that multiple, pigmented sarcoma clinically corresponds closely with that class. While we cannot yet look upon this type of sarcoma as of infectious nature, it is well to remember that multiple hemorrhagic sarcoma, clinically and histologically is lacking in those properties which are associated with "new growth."

In this type the writer was able to follow up step by step the gradual spontaneous disappearance of lesions, owing partly to the action of the exuded blood cells upon the sarcomatous elements and partly to the new formed blood vessels. This inclination of the nodules to disappear speaks against their classification as sarcomata, the nodules of which never disappear (Cohnheim, Paltauf.) Therefore, the writer is inclined to abandon the name of "sarcoma" and classify this type as multiple hemorrhage granuloma.

Favus in New Born Children.—FELIX SCHLEISSNER (*Arch. f. Derm. u. Syph.*, vol. 54, 1900, pp. 105-110).

Two cases of favus occurred in new-born children, respectively 9 and 15 days old. The first baby contracted the disease from its mother, giving it in turn to the other child. The writer was able to notice the primary stages of the favus, described as favus maculosus (Pick) and herpetic stages (Köbner). The peculiarity of the cases was that while the disease in the mother was only limited to the scalp in spite of its thirteen years of existence, the disease in the child appeared over the cheeks, ears, neck and trunk eight days after the first patch appeared on the cheek, showing the peculiar predisposition of the child's skin.

VENEREAL DISEASES.

The Histological Differential Diagnosis between Tuberculosis and Syphilis, Especially between a Tubercular and Syphilitic Affection of the Testes.—BY PROF. DR. P. BAUMGARTEN (*Wien. Med. Wochschr.*, Vol. 50, 1900, p. 2210).

In spite of the advancement of our knowledge of tuberculosis and syphilis the difficulty in differential diagnosis between the two diseases is in some cases rather more pronounced than diminished. For the last twenty years the presence of the tubercle bacillus has been regarded as an absolute sign of tubercular infection. But in chronic cases, where the difficulties in differential diagnosis are greatest, the demonstration of the presence of the tubercle bacillus is not easy to accomplish and often is attempted in vain. A negative result of our endeavors therefore does not exclude tuberculosis, and a positive demonstration of the tubercle bacillus does not bar out syphilis, as a combination of the two processes may exist. Thus even at present stage of our knowledge in some cases the services of histology are called in to decide the question. Since the microscopical demonstration (Baumgarten) of the presence of Langhans' giant cells and tubercle bacilli in growths which clinically and macroscopico-anatomically have been accepted as gummata by competent clinicians, the question whether such lesions are of pure tubercular origin, or of mixed infection with syphilis, is still open. It is a well known fact that in tissues of undoubtedly syphilitic patients diseases develop which clinically have all the signs of syphilis, but anatomically prove to be pure tubercular affections, especially in the testes. The writer offers several trenchant observations illuminating this point. Can we then microscopically differentiate the two processes, especially in the testes, while clinically we fail to recognize the real cause?

Histologically the main proof of tuberculosis lies in the recognition of the presence of Langhans' giant cells. They have some characteristics in structure (they are larger, richer in nuclei), and in arrangement (in sharply defined islands and heaps, sometimes entirely free from lymphocytes), which enable us to draw a distinction between them and so-called fibroblasts (Ziegler) of syphilitic origin. Such giant cells are not met with in pure syphilomata, where we mostly have to do with a small cell infiltration consisting of lymphocytes. In cases of tuberculosis with an acute course, the formation of giant cells is slower than the emigration of lymphocytes, the number of which will obscure from view the giant cells supposed to be present and give us rather a histological picture of syphilis than tuberculosis. In such cases the histological examination must be corroborated by a bacteriological research for the bacilli, which are usually found in these so-called "lymphoid" forms of tuberculosis. When we fail to find the tubercle bacillus in such cases a correct diagnosis cannot be established by the histological and micro-bacteriological examination, as the absence of the tubercle bacilli in the lymphoid cells may be due to their disappearance from the cells, during our examination, and on the other hand the presence of the small cell infiltration does not always indicate syphilis, as the tuberculous process could be associated with an ordinary chronic inflammatory hypertrophy, which will give the same picture of small cell infiltration. In such cases the presence of a syph-

ilitic infection with the tubercle bacilli cannot be established unless we direct our attention to the various forms of regressive metamorphosis taking place in the two processes.

1. The syphilitic hypertrophies are evidenced by the presence of blood vessels, which not only do not disappear, but new ones are formed with formation of new cells, while in tuberculosis the old vessels disappear, and new ones are not formed with the formation of epithelioid cells.

2. The connective tissue bundles of syphilomata develop to such a degree that they sometimes form intercellular connective tissue bundles, while in tuberculosis only rudiments, outlines of connective tissue, are developed. In gummata the connective tissue metamorphosis takes place before the gummatous tissue necrosis, while in the vast majority of tubercular formations the cicatrization of the tubercles is only accomplished after complete cheesy degeneration, which, not being absorbed, is surrounded by new formed connective tissue. The metamorphosis takes place more quickly in tubercular than in syphilitic lesions. And this condition, namely, that in gummatous necrosis the blood vessels and their contents can be demonstrated for a longer period than in tubercular necrosis where no traces of blood vessels can be seen, is the most important sign in differential diagnosis of the two processes. The microscopical localization can also be considered as an important sign in differential diagnosis. The syphilitic process begins in the interstitial tissue, extending secondarily into the wall of the canals of the testis, while the tubercular process in a vast majority of cases starts in the wall of the canals, hence extending to the interstitial tissue. Usually it begins in the epididymis and spreads through the rete testis into the testes. The syphilitic process produces degenerative changes in the epithelium of the canals; the tubercular process causes pathological hypertrophy of the epithelium, giving rise to the characteristic epithelioid and giant cells of the tubercle of the testis. He concludes that not in all cases of mixed infection can a microscopical differential diagnosis be made at present. A new separation of the two processes can be hoped for when the specific micro-parasite of syphilis is discovered and a reliable method of its demonstration in the tissues given to us.

Culture of Bacillus of Soft Chancre.—DRS. BEZANCON, V. GRIFFON, and L. LE SOURD (*Gaz. des Hôpitaux*, 73, 1900, p. 1508).

The nutritive medium upon which the bacillus was cultivated consisted of blood of a guinea pig mixed with gelose (*sang gelose*). The exact mode of preparation has been previously published by the writers. Chancroidal pus is spread upon the nutritive medium and tubes kept at 37 deg. C. In twenty-four hours round, elevated, brilliant colonies can be seen, which attain their full development in forty-eight hours, getting opaque and grayish. After staining the microscope shows a bacillus isolated or grouped in parallel heaps, or arranged in short chains of three or four elements. Only the ends of the bacillus stained, the central portions remain uncolored and are decolorized by Gram.

In the condensed liquid portion of the nutritive medium the microbe develops under the form of straight chains or curves of a large radius, in which the bacilli are individually smaller than in the colonies of the solid part of the culture medium; the chains are sometimes of a considerable longitude and stretch far beyond the microscopic field.

In order to obtain cultures the surface of the chancroid is disinfected and pus is allowed to gather under a dry dressing. The pus is then spread upon the prepared medium. Sometimes after twenty-four hours no visible colonies could be seen upon the surface of the nutritive medium, but they could be found in the condensed liquid portion of the medium.

Subculture gives better growths in colonies, which always remain separate and distinct. The microbe can also be cultivated upon the non-coagulative serum of a guinea pig, but the vitality of the bacillus is of short duration. It does not grow upon the usual nutritive media. Cultures of eleventh generation were inoculated into the abdominal skin of a patient suffering with a soft chancre, and a typical chancre as to aspect and evolution was obtained. By recultivation the virulence of the microbe is not abated at all.

Protargol in Anterior Gonorrhea—A. GROSLIK (*Medycyna*, 1900, 130)
(Polish).

The conclusions of the author are based upon thirteen private cases of acute and nine subacute gonorrhea. The strength of the used protargol varied from $\frac{1}{4}$ to $\frac{1}{2}$ per cent. The injections were performed three times daily and retained five to fifteen minutes; in the acute cases the duration of treatment in the average was 36.8, in the sub-acute twenty-nine days. Pain disappeared in the first stage of treatment, the discharge diminished, but not in one case did the author obtain a cure from the sole use of protargol. He was obliged to use astringents and the other remedies. Mild solutions of protargol can be used in the beginning of a gonorrheal process; strong solutions invariably irritate the mucous membrane. Protargol kills the gonococci, but not quicker than other remedies. The beneficial results are accounted for by not only its anti-microbic but also its astringent action. Protargol in many cases can be regarded as a specific remedy against gonorrhea.

The Question of Treatment with Mercurial Bags.—PROF. EDWARD WELANDER (*Arch. f. Derm. u. Syph.*, vol. 54, 1900, pp. 59-104).

In the first publications of the bag method of treatment, Welander laid great if not the greatest stress upon the inhalation of the evaporated mercury by the lungs, ignoring, it may be said entirely, the role of skin in absorption of mercury. Other observers objected to this view and in their articles (Schuster, Gechwand) pointed out, that the absorption of mercury by the skin plays also an important part in bringing mercury in the circulation of the system.

In the foregoing article Welander acknowledges his mistake in ascribing the absorption of mercury to lung inhalation alone, agrees that the skin absorbs also but only by evaporation, so to say a skin inhalation, and not by forcing the metallic mercury into the circulation, through the skin tissues or pores. The mercury in the pores, gland-ducts, is also absorbed by evaporation. Thus inunctions we have double inhalation by the skin and lungs.

When we take into consideration the fact that mercury does not remain longer in the system when inunctions are used, than when bag treatment is applied, the fact may be brought forward that in inunctions there remains a quantity

of mercury in the skin pores from which inhalation takes place some time after the inunctions have been used, thus increasing the mercury in the system, and consequently the use of inunctions has greater indications. Welander meets this fact by saying that the inconveniences which accompany inunctions are far greater than the benefit derived from the small amount of mercury in the pores.

In order to meet the objections raised by other writers Welander brings forward facts, proved by experiments and thus in a telling manner substantiates his thesis that the bag treatment judiciously and properly used has the same advantages as inunctions, and is besides more comfortable.

The Justus Test in Syphilis: Its Application in Twenty-nine Cases.—

H. S. CHRISTIAN and OTTO H. FOERSTER (*Univers. Med. Mag.*, XIII., 1900, p. 634).

The investigation pursued upon this subject by the writers comprises a study of twenty-nine cases of real and suspected syphilis, including cases of possible initial lesion with adenopathy; several cases of varicocele and sexual neurasthenia were also used as control cases. The hemometer of Fleischl was employed in the determination of the percentage of hemoglobin. The writers conclude that (1) this test in the diagnosis of doubtful ulcers is of no value. That (2) this test seems to occur in a certain proportion of cases of acute secondary syphilis, where it appears to be a symptom of the disease and can in no sense be considered a true test, as the diagnosis in such cases is already complete; and that (3) as an absolute criterion it is unreliable, occurring as it does in conditions other than syphilis.

The Nitrite Treatment in Syphilis.—WILLIAM BROWNING (*Med. News*, 77, 1900, 909).

The author's reason for resorting to this method is the tendency of syphilis to cause arterial change. This usually means a narrowing of the lumen, either from organic lesion, or at times by vascular spasm. The nitrites as vaso-dilators may be very useful in this condition. The nitrites are indicated in all syphilitic diseases of the arteries, as a rule in all specific affections attended by pain, in all syphilitic brain troubles, and especially in the later and hereditary forms of syphilitic disorder. With these indications rose the mandate to employ immediately such other and more directly specific agents as the case demands.

Two preparations, namely, the tetra-nitrate of erythrol and nitro-glycerine are usually used, the latter especially when prolonged use of the drug is indicated, also the sugar combinations are used in tablet form, while the sodium salt should be given in solutions up to one or two grain doses.

Late Syphilitic Pyrexia (Intermittent Essential Fever of Syphilis).—MR. CAMPBELL WILLIAMS (*Lancet*, Dec. 1, p. 1577).

A man, aged forty-three, contracted syphilis in December, 1896. After the secondary stage he suffered from a sore tongue, which was irritated by an ill-fitting denture. It healed by June, 1898, and he had no further symptoms. He was treated with mercury alternately with iodides, for two years, and was free from all symptoms for eighteen months before ceasing attendance. In January, 1900, he had influenza, and in April was reported to be very ill from post-influenzal

intermittent fever, for which he was treated with quinine and arsenic. The writer saw him on April 18. He had periostitis of the right clavicle and pyrexia. His temperature rose every afternoon and the crisis occurred in the small hours of the morning. Syphilitic fever was diagnosed, and mercury was prescribed. On April 25th his temperature became normal. It remained so and he is now quite well.

The writer uses the term "essential fever" in contra-distinction to that which appears with the initial rash of syphilis. He believes that such cases react more quickly to mercury than to iodide. An interesting feature of this case is the thorough treatment by mercury carried out during eighteen months.

Staff-Surgeon Bassett-Smith (*Lancet*, Dec. 22, 1803).—A man, aged twenty-five, had been invalided from the West Indies for fever of an irregular type. He was admitted to Haslar Hospital in January, 1900, and was treated for post-influenzal pyrexia, being then very anemic. He returned to duty for six months, but he was again admitted in August for malaria. Examination of the blood showed no evidence of malaria, but there was a relatively great increase of lymphocytes, as distinct from the polymorpho-nuclear leucocytes (neutrophiles). There was a reduction of the red cells (2,800,000) without nucleated forms, but only a slight total increase of white cells (13,600). This, with the marked anemia, tendency to epistaxis, and slight enlargement of the glands in the groin, led to the diagnosis of early lymphatic leucemia. His temperature was remarkable, at times varying as much as 7° between night and morning, but without rigors, and with scarcely any constitutional symptoms. He was treated for ten weeks with arsenic, iron, digitalis, etc., and for a short time with mercury. Regular examinations of the blood showed the same characters throughout, with an extraordinary abundance of blood-plates. As there was an old history of syphilis he was given iodide of potassium and bark, with the result that in three days the temperature fell to normal and continued so.

The result agrees with the experience of Dr. T. D. Savill that the iodides give more favorable results than mercury, for, though early in the disease the patient was taking the latter as a specific remedy the temperature did not fall to normal. Cabot states that in certain stages of syphilis there is a decrease in the number of red cells and an increase of lymphocytes, as was found in this man, but he does not mention the increase in the blood-plates. The peculiar intermittent fever with intense oscillations is noticed by Dr. Burney Yeo, and a similar case is reported by Dr. Sidney Phillips in which the pyrexia lasted for months, resembling tertian ague, but yielded at once to iodide of potassium. Probably many cases of indefinite fever so common in the services are of this character.—(*The Medical Review*.)

Tertiary Phagedena. —PROF. A. FOURNIER (*La Semaine Medical*, Oct., p. 355).

The term phagedena is applied to a kind of ulceration in which extension and tissue destruction are associated with indefinite chronicity and resistance to treatment. It is found in epithelioma, scrofula, skin affections, and certain tropical diseases, as well as in syphilis. In the latter it is most frequent in the tertiary stage and attacks the nose, lower limbs, scapular regions, genital organs, and arms, but is rarely seen upon the fingers or toes. On mucous membranes the fauces and genitals are the elective seats, and in the deeper tissues the periosteum and tongue are mostly affected. The ulcer is generally surrounded by a dusky red areola, the edge is adherent and notched, the floor is irregular, and the secre-

tion is abundant, but these characters may be considerably modified by inflammatory changes of either a pultaceous or gangrenous kind. Extension is either superficial or deep. When superficial it takes a centrifugal or serpiginous form. The centrifugal variety may be *orbicular*, in which an entire circle is eroded, or *arciform*, in which only an arc is affected. The junction of a number of arcs at their extremities gives the "conjugate arciform" variety. The serpiginous variety is generally curved and sinous, but is sometimes rectilinear, the advancing edge being active, the hinder end cicatricial. There is a superficial erosive form which is characterized by very superficial destruction of tissue, more an excoriation than an ulcer, and resembles an eczematous syphilide, but the crusts surmount slight surface ulcerations. *Terebrant phagédisme* rapidly perforates and mutilates. Nerves and blood vessels offer most resistance to its progress, but are eventually eroded. The course may be very rapid, large portions of the penis, glands, or fauces being destroyed in a few weeks or even days. All the forms are adversely influenced by irritants, bad hygiene, excesses of diet or drink, fatigue, etc., favorably by rest and hygiene, or new pathological processes, such as erysipelas. Edema, lymphangitis, and adenitis are some of the complications, but the general health is rarely affected by the local conditions. In some of the chronic forms, however, progressive cachexia may be present, and danger may result from intercurrent affections. The more acute stages may be accompanied by a sub-typhoid condition with rapid loss of strength.

Phagedena terminates in healing, chronicity, or death, and produces cicatrices, mutilation, atresia of urinary, nasal, and vaginal passages, and osseous destruction. Its tendency to recurrence is one of its worst features. A man who contracted syphilis in 1875, had in 1876 ulceration on the arms and face, in 1878 extensive ulcers on one leg, leaving many deep cicatrices, in 1879 a deep ulcer on the other leg, and in 1882 *terebrant phagédisme* of its anterior surface.

The immediate cause is not known. Absence of specific treatment, bad hygiene, alcoholism, senility, and pregnancy, all aggravate and predispose to it. Many writers think it is due to a special virus. Prof. Fournier cites several groups of cases supporting this assumption. For instance, in one town, four cases occurred, alike in type. All the patients were infected by the same woman. Cases present themselves in which neither the history nor the nature of the ulceration is distinctive, but the early treatment should be empirically anti-syphilitic. In the diagnosis of such the following table is useful:

Tertiary Phagedena.

- 1.—Always multiple and appreciably hard, with infiltrated base.
- 2.—Circular or arciform.
- 3.—Deep and destructive.
- 4.—Non-ambulant, *i.e.*, fixed.
- 5.—Antecedents of syphilis and spontaneity of lesion.
- 6.—Auto-inoculation negative and influenced by specific treatment.

Chancrous Phagedena.

- 1.—No analogous induration.
- 2.—No distinct shape.
- 3.—Superficial.
- 4.—Ambulant, often serpiginous.
- 5.—No antecedents, and lesion always an accident of contagion.
- 6.—Auto-inoculation possible and not influenced by specific treatment.

TREATMENT.—This must be based upon the precise diagnosis of the morbid process, and the causes producing and determining its extension. A patient who had a sinuous ulceration, thought to be the result of a simple chancre, was unsuccessfully treated for twenty-six months. Under anti-tertiary treatment cicatrization took place in a few weeks. A woman had phagedena of the foot, which

would not yield to the usual drugs. All hygienic measures had been neglected, and a state of exhaustion had been induced by hard work and alcoholic excess. When rest was employed as well as the medicaments the ulcer healed. KI should be given in 60 to 90 gr. doses, but mercury should not be employed at first; it is indicated when the KI does not give immediate results, and is indispensable when there is urgent danger of mutilation.

For *local* treatment iodoform, either as powder or ointment, should be used. Balneation, frequent and prolonged, gives very good results. At first the part should remain in a warm bath for an hour at a time, afterwards for two or three hours, and in severe cases, up to four hours per day. If the longer periods are too fatiguing, shorter baths, of about one hour each, repeated every two or three hours, should be given. Should these measures be unsuccessful, rather than irritate the lesion with various applications, it is best to suspend the CHI₃, apply innocuous dressings of cotton wool and boiled water (frequently renewed) for a time, and then return to the CHI₃ and balneation. Such procedure should be repeated several times before resorting to more drastic measures. These latter should be reserved as a last resort, particularly as all phagedenic ulcers are somewhat capricious and often suddenly heal after resisting treatment for years. When indicated, the best method is to use Ricord's caustic (H₂SO₄ and carbon sufficient to form a paste); this is laid on the ulcer with a spatula and then covered with cotton wool. An eschar is formed, which becomes detached in a few days, and cicatrization quickly ensues. There is always, however, a danger of the cicatrix breaking down.—(*The Medical Review.*)

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BENIGN EPITHELIAL TUMORS OF THE SKIN.¹

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IT will be well to define at the outset what is the meaning of the word epithelial, and for this purpose the reader is referred to a previous article in the February, 1900, number of this JOURNAL, where reasons are given for considering as epithelial those cells, no matter what their origin, which, lying closely packed together, without any intercellular substance beyond an exceedingly thin sheet of mucilaginous cement between them, constitute definite layers, no vessels penetrating between the individual cells.

Such layers line the external and internal surfaces of the body, the lumina of gland alveoli, ducts, and vessels, or they may be arranged in cords, as in the liver and suprarenals.

Under this definition it is evident that not only the cells of the epidermis and its derived glands, but also the endothelial cells lining the blood and lymph vessels, are to be considered as epithelium. These latter have, in fact, all the characteristics of epithelium, and tumors arising from them have the characteristics of epithelial, and not connective tissue, tumors, although, like the connective tissue cells,

¹Photographs by the author, partly from original specimens examined at the General Memorial Hospital and partly from those supplied by Drs. Schultze and Johnston.

Up to 10 diameters, Ross astigmatic.

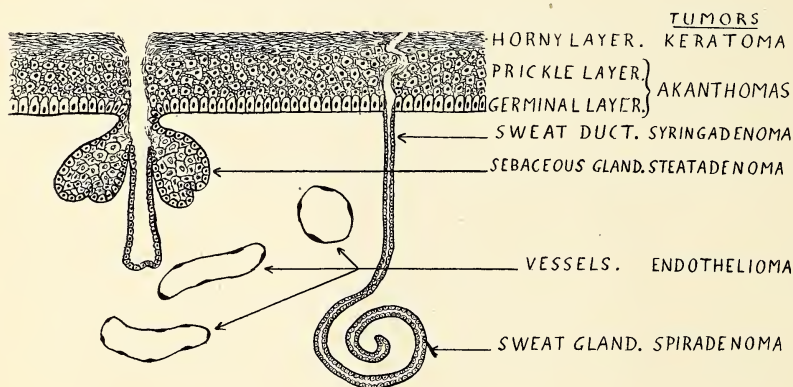
25 " , Spencer, 2 photographic.

250 " , Powell and Lealand. $\frac{1}{4}$ apochromatic oil immersion.

they are derived from the mesenchymal cells of the early embryo, and not directly from any one of the three primary epithelial germ layers.

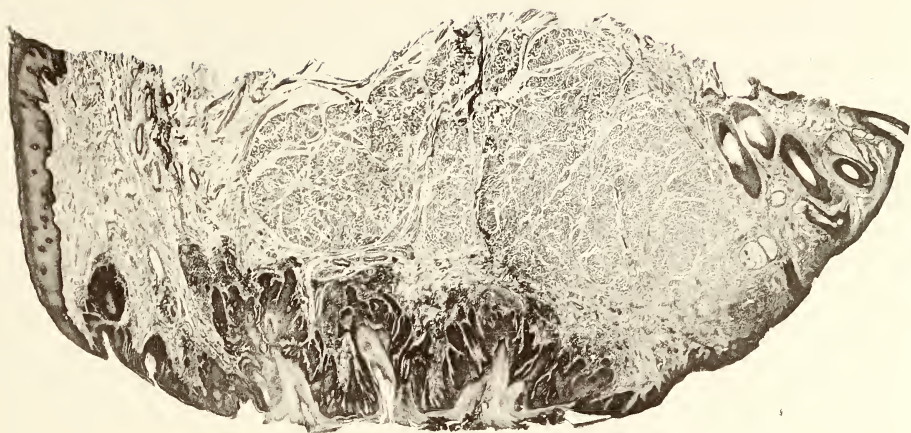
Tumors, therefore, arising from endothelium, situated in the corium, must be held to be of an epithelial nature, and as such will be dealt with in this article. On the other hand, pigmented and other nævi and tumors derived from them will be excluded. Such tumors have usually been regarded as of connective tissue origin, but Unna, with whom Gilchrist and many other recent writers seem to be in accord, claims to have traced their origin from epithelium of the ectoderm, which has been cut off from its parent stock in the process of development, and remains heterotopically imbedded in the connective tissue of the corium.

Lubarsch, who revels in contradiction, and who may be called the pathological Mephisto, "Der Geist der Stets Verneint," was unable to

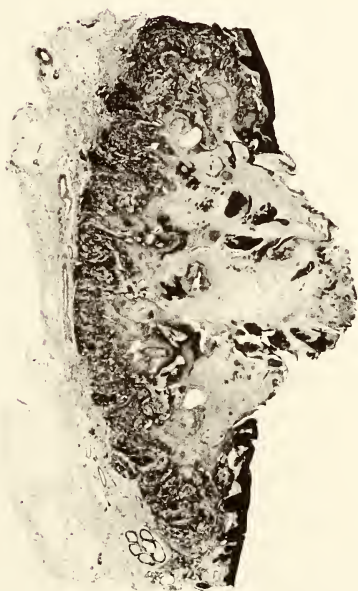


find any such snaring off of epithelial cells, and roundly asserts the connective tissue origin of cells found in nævi. Bauer (*Virchow's Archiv*, Vol. 142) and some others hold that nævus cells are endothelial, but as the question is still an open one, it may be provisionally assumed that they are modified connective tissue cells, probably allied to the chromatophores, since they so frequently contain pigment, and will, therefore, be excluded from consideration in this article. Nor will retention cysts or tumors arising in connection with the highly specialized mammary gland be dealt with.

In spite of these exclusions there is plenty of material left to work upon, as may be seen by a glance at the accompanying diagram, in which are represented the various layers of the epidermis and its derived glands, together with an enumeration of the tumors derived from them.



a

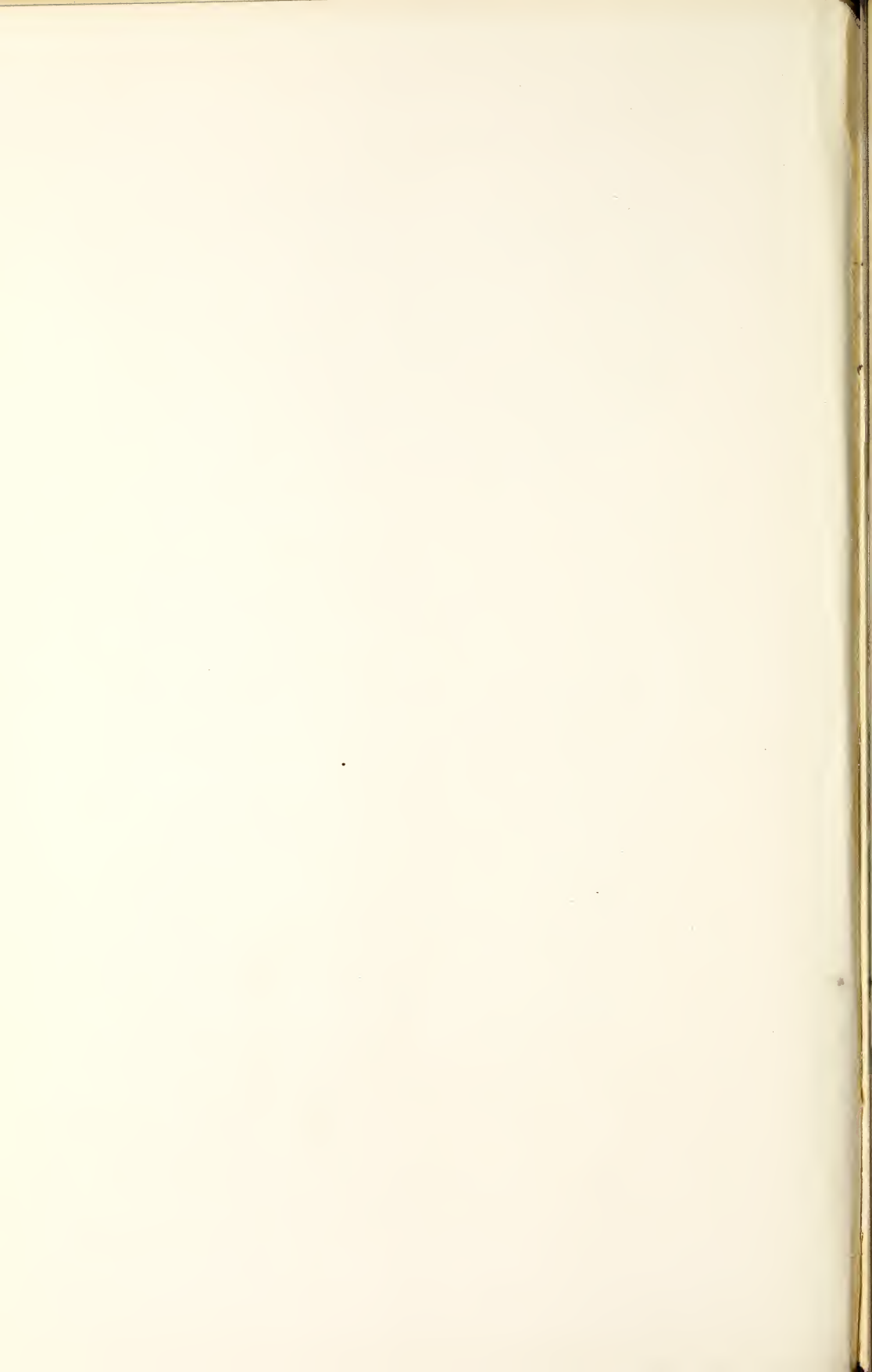


b



c

- a.* Verruca vulgaris. X 10
- b.* Keratoma. X 7.
- c.* Molluscum contagiosum. X 25



For cutaneous warts and similar growths, the term papilloma is in general use. This word was coined in the early days of pathology, and expresses the idea, then prevalent, that such growths are due primarily to increase in size and numbers of the papillæ. To-day, however, it is generally recognized that the papillæ, as such, play an altogether secondary rôle in the formation of true warts, and that these are due, in the first instance, to proliferation of the epithelium. The word papilloma, therefore, should be dropped in a discussion of the subject of cutaneous growths, although it may conveniently be retained for the purpose of reporting pathological examinations where the chief object is to express the idea of benignity, as opposed to malignancy, and should be used in a general way as descriptive of excrescences arising from a surface, whether primarily of epithelial or connective tissue origin.

Unna distinguishes two types of tumors arising from the epidermis: the keratomas, in which the horny layer is most conspicuous, and the akanthomas, which are chiefly made up of prickle cells, the horny layer being comparatively insignificant.

In the keratomas, under which are included corns and cutaneous horns, the increase of the tumor is, of course, due merely to apposition, there being no actual growth of the dead horny cells themselves. These, instead of peeling off, for some reason or other remain glued together, and beings constantly reinforced from below, a warty growth or cutaneous horn is gradually formed.

In the corns, constant pressure from without prevents the usual desquamation of the dead surface cells, which, consequently, form a hard, thick layer, followed secondarily by some increase of the prickle layers. The formation of the cutaneous horns, on the other hand, is probably due to some abnormality in the cells themselves: the horny layer and *rête Malpighii* increasing simultaneously, the former, however, being by far the more conspicuous, so that cutaneous horns can be distinguished micro- as well as macroscopically from ordinary warts.

Plate I.*b* shows a keratoma from a male patient aged 60. For ten years there had been a small, painful spot under the right eye, which had become ulcerated four weeks before removal.

A plug of horny material can be seen in the center, extending inward as well as outward, so that the growing prickle layer has been pushed down into the corium and beneath the normal epidermis on either side, but there is no indication of infiltration of the underlying tissues, such as would be observed in a malignant growth.

Of the akanthomas, or growths arising from the *rête Malpighii*,

four varieties may be distinguished: (1) *Verruca vulgaris*, (2) *condyloma acuminatum*, (3) *molluscum contagiosum*, (4) *akanthoma adenoides cysticum*.

1. *Verruca Vulgaris* (Plate I.a).—The horny layer is increased in thickness, though but little, by comparison with the *rête Malphigii*. The *rête* cells themselves are rapidly replenished from the germinal layer, where mitoses are frequent, whilst keratinization probably proceeds more slowly than normal, as indicated by the prominence of the granular layer. The epithelium sends out long pointed processes into the corium, and between these are the elongated, narrowed papillæ, which show some tendency to branching.

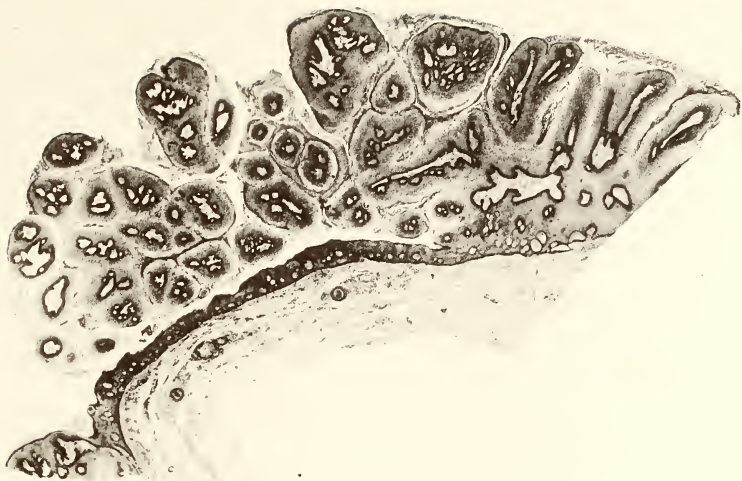
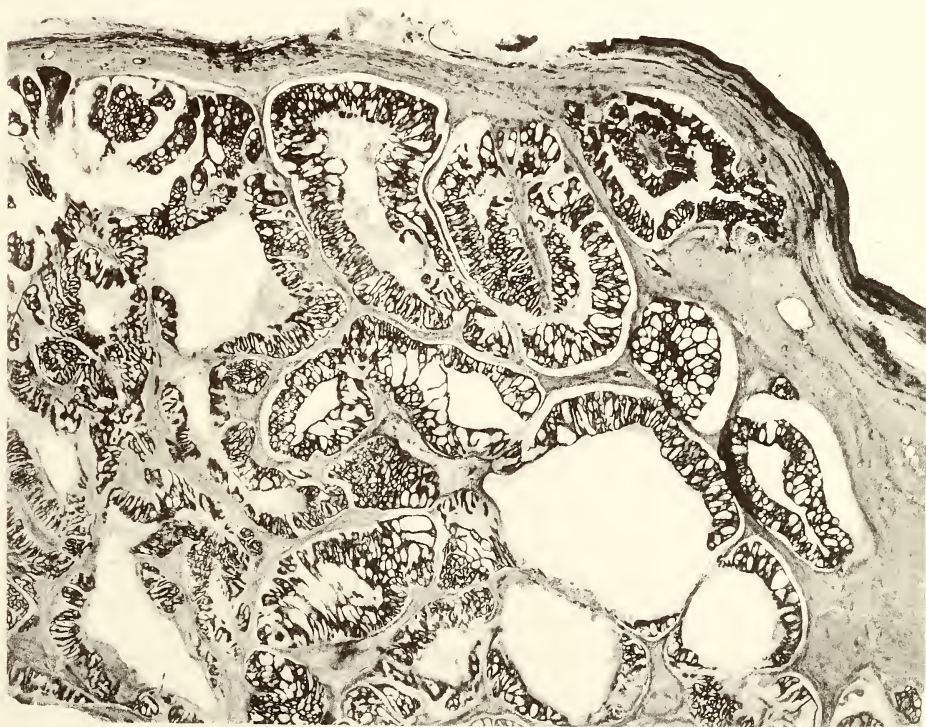
2. *Condyloma Acuminatum*.—In these *akanthomas*, which occur, for the most part, around the external genitals and anus, the horny layer is not at all, or very slightly, increased, whilst the greatly thickened prickle layer presents a mulberry or cauliflower appearance, owing to the continued branching of the narrow papillæ throughout their entire length, the branching being much more developed than in *verruca*. Mitoses are frequent, not only in the basal or germinal layer, but also in the three or four deepest layers of the prickle cells. The main differences between *verruca vulgaris* and these may be tabulated as follows:

VERRUCA VULGARIS.	CONDYLOMA.
Gross appearance: Flattened or semicircular nodule.	Cauliflower growth.
Gross appearance: Surface dry.	Surface moist.
Microscopical: Thickening of horny layer.	No thickening of horny layer.
Microscopical: Moderate branching of papillæ.	Excessive branching of papillæ.
Microscopical: Mitoses only in germinal layer.	Mitoses in germinal and also in three or four rows of prickle layer.

Vollmer thinks that in condylomas the primary growth is due to increase of the papillæ, but this is contested by Herxheimer, who, on examination of 30 specimens, was unable to find the necessary conditions for supposing this to be the case, namely, papillæ free from an epithelial covering. Herxheimer's view is certainly more in accordance with modern ideas, and may be accepted as in all probability correct.

Plate II.b shows a condyloma of the anus.

The flat condylomas are of different nature, the tumor being due pri-

*a**b*

a. Condyloma. X 10.

b. Akanthoma adenoides, cysticum. X 10.

marily to syphilitic lesions of the corium, whilst the thickening of the epidermis occurs as a secondary manifestation.

3. *Molluscum Contagiosum*.—These tumors appear as small, multiple nodules, usually the size of a pin-head to that of a pea, over which the epidermis rises up all round, whilst toward the center it sinks in, and, spreading out beneath the surface, forms a pouch or button of epithelial cells, with a central crater-like opening.

The cells forming the deepest layer are columnar, and rest on a basement membrane, which at more or less regular intervals runs up among the cells, giving to the pouch a lobulated appearance. Above the columnar layer are prickle cells, which quickly swell up and degenerate, forming large hyalin, oval bodies in the stratum granulosum, which, above this, become imbedded in a horny layer, being finally cast off with the horny scales through the central opening. There is a difference of opinion as to whether molluscum contagiosum takes its origin from the hair follicles or the lower layers of the epidermis, but all authors are agreed that the new growth is practically confined to the epithelium, and that the increase of connective tissue is insignificant.

In view of the admittedly contagious nature of these tumors, which is discussed at length by Stelwagen, 1895, the question of their parasitic origin has always naturally been prominent, and Neisser, among others, described the hyalin ovoid bodies as psorosperms, claiming, at the same time, that these were the cause of the epithelial proliferation. For a time this view was held to be correct, but is now somewhat discredited, Unna and most other writers on the subject holding to the more probable theory that the ovoid bodies are degenerated cells. Bacteriological examination has always proved negative, and the parasite, if it exists, has yet to be discovered.

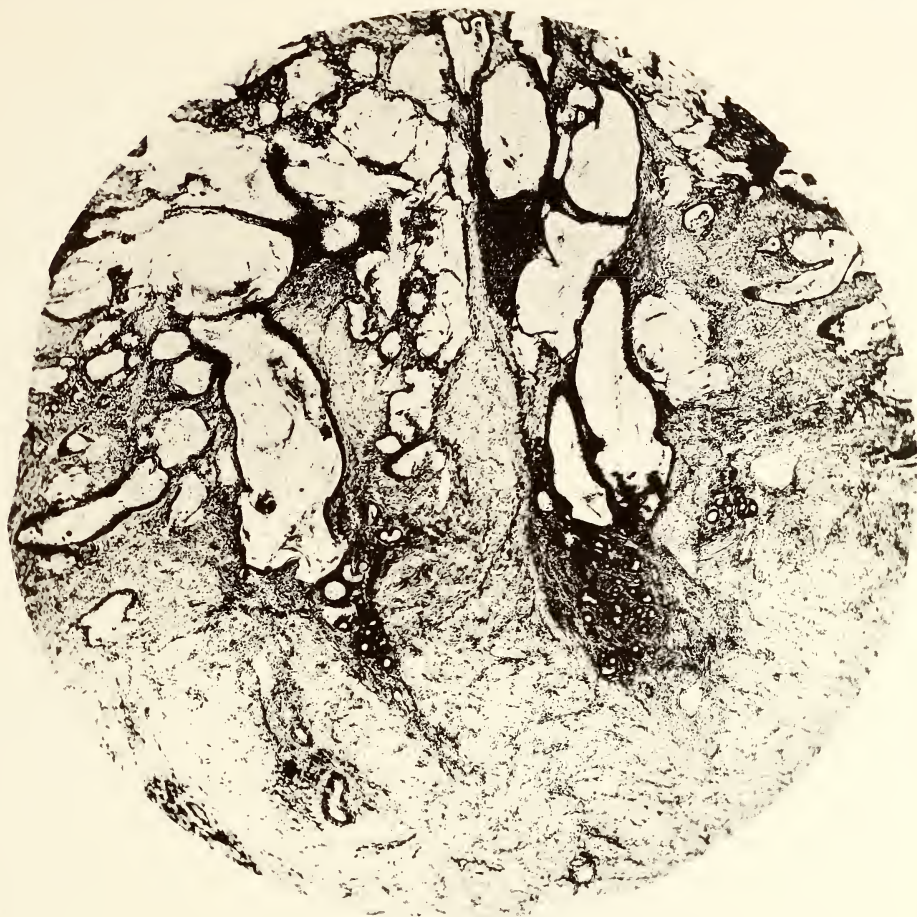
Plate I.c. Specimen brought from Vienna by Dr. O. H. Schultze; section through an entire pouch. The enlargement is not sufficient to resolve the individual hyaline bodies clearly, but under a higher power they can be seen imbedded in the deeply staining horny layer.

4. *Akanthoma Adenoides Cysticum of Unna, or Benign Epithelioma of Fordyce*.—Neither of these titles is quite satisfactory, since the word epithelioma is best reserved for malignant tumors arising from stratified epithelium, whilst Unna's *akanthoma* is misleading, for the cells of these tumors, although arising from the germinal layer of the epidermis, show no tendency to develop into prickle cells, and the growths should not, strictly speaking, be included among the *akanthomas*.

Fordyce suggests that certain cells of the germinal layer are destined to become prickle cells, and others to form the glandular appendages, so it may be supposed that it is from these latter that the

tubular epitheliomas or rodent ulcers, and the benign epitheliomas, neither of which proceed to the formation of prickly cells, arise. According to this theory, the title adenoma cytadenogenes cysticum (cystic adenoma of the gland-forming cells) would perhaps be a good one to explain the nature of the growths, and but little more terrifying to the unfortunate possessors of them than Unna's. Jarisch calls these tumors tricho-epithelioma, believing them to arise from the hair follicles, but it is by no means certain that this is always the case. They occur, for the most part, on the open parts of the face, about the nose or orbit, and their location is a guide to their nature, since the syringadenomas, with which they are most easily confounded, are, as a rule, found on the trunk below the clavicle. They are said to be congenital, and at any rate are usually observed first in early life in the form of small pimples or nodules, which persist without further increase, for a number of years, though ultimately liable to become malignant, as in White's case, and the one figured here, Plate II.*a*, which started from a pimple of the orbit. Although a malignant growth, the photograph of it is inserted by way of illustration, since in its histological structure it is precisely similar to those which are still in the benign stage. In another case, examined at the General Memorial Hospital, the tumor originated at the orifice of Steno's duct, and after running an indolent course for over twenty years, developed malignancy, finally infiltrating the lymph nodes in its vicinity, the infiltration showing exactly the same structure as the original tumor. Dr. James C. Johnston suggested that this case be mentioned here, as he believes it to be a unique instance of infiltration of the lymph nodes. On microscopical examination these tumors are found to contain a somewhat delicate branching connective tissue stroma, on which rests a layer of columnar cells. In the distended alveoli are numbers of small cysts, filled with colloid material, and separated from each other by strands of cubical or flattened epithelium, the whole presenting the appearance of a net or lattice-work.

In addition to the usual forms of akanthomas, others are occasionally met with which cannot very well be classified. A few cases have been described of multiple hard nodules of the scalp, which microscopically are found to consist of closely packed, horny epithelial pearls, separated from each other by a scanty connective tissue stroma. Such tumors have sometimes been erroneously reported as endotheliomas. Plate III.*b* (Dr. O. H. Schultze) shows a photograph of a congenital pigmented wart, peculiar inasmuch as the pigment is entirely confined to the germinal layer, none being found either in the prickly layers or the corium.



a



b

- a.* Syringodeoma. X 25.
b. Pigmented wart. X 10.

Tumors Arising from the Epithelial Appendages of the Skin.—
Three varieties may be distinguished:

	ORIGIN.
1. Syringadenomas.	Ducts of sweat glands.
2. Spiradenomas.	Sweat glands.
3. Steatadenomas.	Sebaceous glands.

Akanthomas may arise from the hair-follicles, but these cannot be said to fall into a group by themselves.

1. *Syringadenomas* (syrinx, pipe) arise from the ducts of sweat glands, and appear usually on the ventral aspect of the trunk, below the clavicle, as small nodules up to the size of a pea, although they may exceptionally reach a large size. Sections under the microscope present the appearance of small cysts, varying in size, containing granular and mucoid debris, and lined with cubical or flattened epithelium, in one or more layers, the cells swelling up with secretion of mucus, whilst at a later stage the epithelial lining disappears, owing to pressure. Török could find no connection between the cysts and normally formed ducts or coil glands, so concluded that the tumors arise from abortive ducts, the growth of which has become arrested during development, and which subsequently start in to grow atypically.

Petersen describes one in which he arrived at the same conclusions at first, but in a later article explains that he found connections between the normal ducts and those in the tumor. In the accompanying illustration the somewhat atrophied glands can be seen, whilst leading from them are the greatly distended and branching ducts which form the main part of the tumor (Plate III.a, case of Dr. Otto Schultze).

Spiradenoma.—True adenomas of the sweat glands must be distinguished from mere hypertrophy. Cases of the latter have been reported by Elliot and Beier as occurring in the neighborhood of irritated nævi, while Unna remarks that this condition is not infrequent in tuberculosis and in the neighborhood of malignant tumors. Plate IV.a represents its occurrence near the site of a carcinoma of the breast in a negress.

There are usually a large number of glands affected independently of each other, preserving their normal form, but exhibiting greatly distended lumina lined with strikingly large epithelium, although the ducts are not necessarily closed. In neither Elliot's, Beier's, or the case figured here was there any evidence of closure. Elliot supposes that the distension is due to the degeneration and swelling of the epithelial cells, the semi-fluid debris of which being so much thickened,

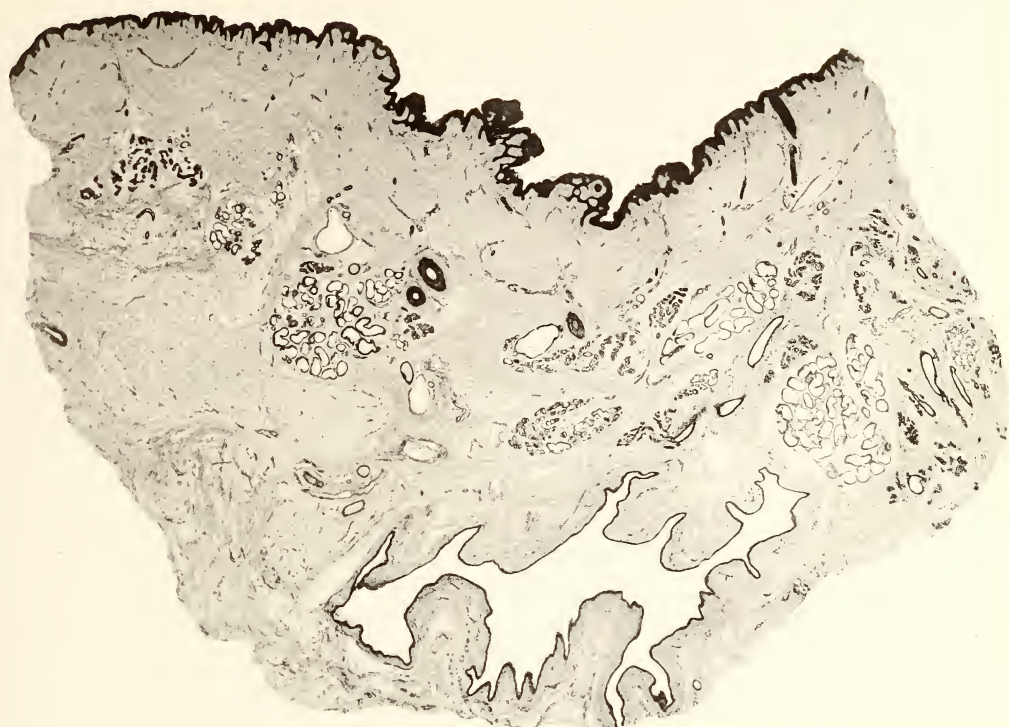
remains in the alveoli instead of escaping by the ducts, and leads to the cystic formation.

True adenomas are more localized, originating probably from a single coil gland, though others in the neighborhood may become incorporated in the growth and possibly later add to its bulk by proliferation also. Still there is always a definite nodule formed by successive budding out from the affected gland or solid cell processes, which quickly show a tendency to assume coiled forms, and which may, or may not, acquire a lumen later (Plate IV.*b*). A scanty connective tissue stroma penetrates between the coils, whilst the basement membrane, on which the lowest layer of epithelial cells rests, is everywhere intact and may become greatly thickened and hyalin, as shown in the figure, Plate IV.*c*. Not many such cases have been reported, and very few of them are of the Cæsar's wife description, though they might, perhaps, all be good enough for Cæsar. Unna, 1894, accepts as genuine Thierfelder's, Hoggan's, Chandelux's, and Audry's. Chandelux's (1882) drawings and Audry's (1892) descriptions exactly tally with the appearance of the spiradenoma figured here (Plate IV.*b* and *c*, Dr. Otto Schultze), but Hoggan's (1881) illustrations show what is probably an endothelioma, whilst Thierfelder's (1870), to judge from his plates, has evidently reached a malignant stage, although undoubtedly originally a spiradenoma.

Fordyce (1895) describes minutely with excellent photo-micrographs an adeno-carcinoma of the coil glands, which probably originated as a benign growth. In his case there was distinct infiltration of the neighboring tissues, and in places the cells were observed breaking through the basement membrane.

More recently other cases have been reported; a very typical one by Spiegler, which, however, he calls an endothelioma, but his illustrations show the coils and solid budding processes so clearly that there can be little doubt but that he was mistaken as to its nature.

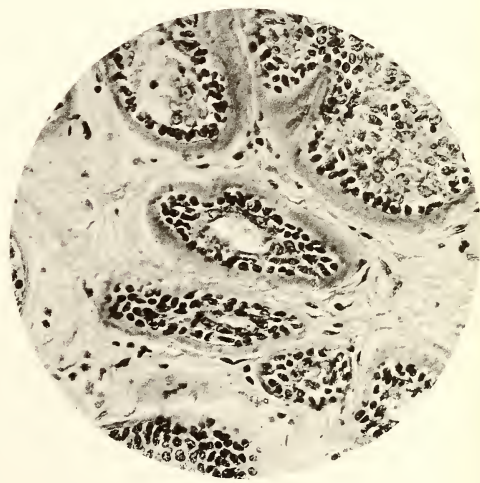
Steatedenoma.—The sebaceous glands are liable to vary physiologically in size and activity within very wide limits, a remarkable instance of excessive hypertrophy being found in the uropygeal gland of some birds, an enormous sebaceous gland situated at the base of the tail, the secretion of which is used in preening the feathers (Plate V.*a*). In consequence of this variability, the sebaceous glands are very apt to become hypertrophied under pathological conditions, and cause more or less diffuse swellings, as in rhinophyma and similar affections, many glands enlarging independently of each other, but preserving their normal form (Plate V.*b*, from a case of rhinophyma).



a



b



c

- a.* Hypertrophy of sweat glands. X 10
b. Spiradenoma. X 25.
c. " X 250

Such hypertrophies are often called adenomas, but cannot, strictly speaking, be regarded as such.

Again, many tumors supposed to arise from sebaceous glands develop prickle cells and horny material, so that they must be looked upon as *akanthomas*, which have simply invaded the glands, the latter taking no actual part in the tumor formation.

After exclusion of such cases, the number of genuine *steatadenomas* on record is greatly reduced; in fact, Unna, in 1894, considered that there was but one such, that of Bock, whose drawings and description certainly seem to be conclusive. Pollitzer, reporting a case in 1893, the first, according to him, in America, remarks that only about twenty cases altogether have been described up to that time, he including many which Unna rejects. It appears then that these tumors are, at any rate, very uncommon, and, taking the word *steatadenoma* in its most restricted sense, can hardly be considered to occur at all.

Endotheliomas in the cutis, as elsewhere, rarely arise from the endothelium of the blood vessels. Wolters reports such a case, and gives very minute descriptions, with excellent drawings, of the microscopical appearance, calling it *hemangio-endothelioma tuberosum multiplex*, a name suggested by Jarisch, who had previously described a similar affection. Wolters identifies with his case many of those which have been described as *lymphendotheliomas*, *syringadenomas* (Török's among others), *hidrocystadenomas*, etc.

The patient, male, aged 30, had hundreds of nodules and spots up to the size of a pea scattered over the breast. The nodules had existed for a long time, and were probably congenital.

Sections showed the epithelial covering normal, whilst in the corium the stratum reticulare and subpapillare were thickly crossed with solid cell strands, swelling out at intervals into minute oval or round cysts, containing a central lumen filled with a plug of colloid material and lined with several layers of cells. These strands of cells could be traced arising from proliferating endothelium of the blood vessels, whilst that of the lymph spaces was everywhere normal.

Cases are most frequently reported as arising from the endothelium of the lymph channels, although most of these could probably be eliminated, as in reality epidermal.

Aschoff and Gaylord, for instance, figure one which gives the impression of an *akanthoma adenoides cysticum* rather than an *endothelioma*. Mulert describes an *endothelioma* of the scalp, but Lubarsch (*b*), after careful examination, affords what appears to be conclusive evidence that it was of epidermal origin, since he was able to trace the continuity between the tumor cells and the germinal

layer of the epidermis in a few of his serial sections. Mulert's illustration, like that of Aschoff and Gaylord, is suggestive of an *akanthoma adenoides cysticum*.

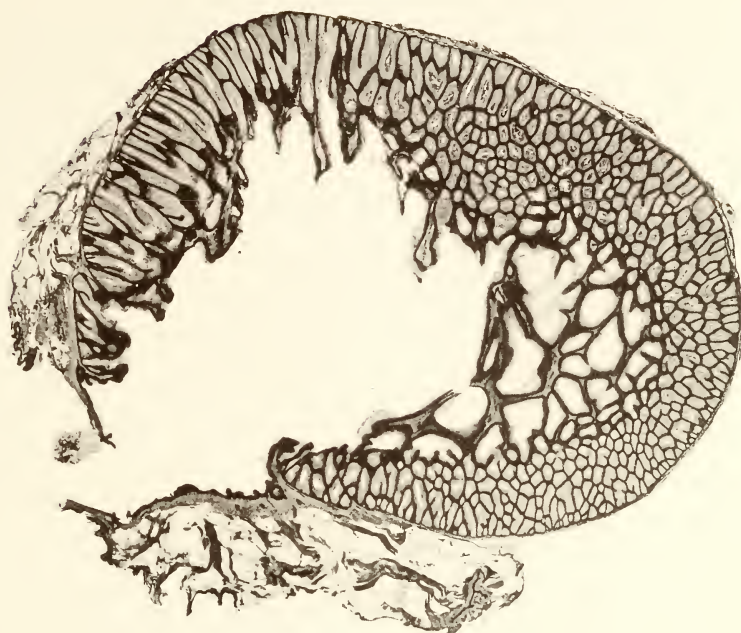
When once the lymphendotheliomas become malignant, as not infrequently happens, it is difficult to distinguish between them and the carcinomas, but in their benign stages they can readily be recognized.

The endothelium swells up, forming cubical or polyhedral cells, which, by proliferation, give rise to other similar ones, distending and filling up the lymph channels, which now present the appearance of solid strands of epithelial cells, lying irregularly parallel with each other, the intervening fibrous tissue becoming greatly thinned out on account of the pressure.

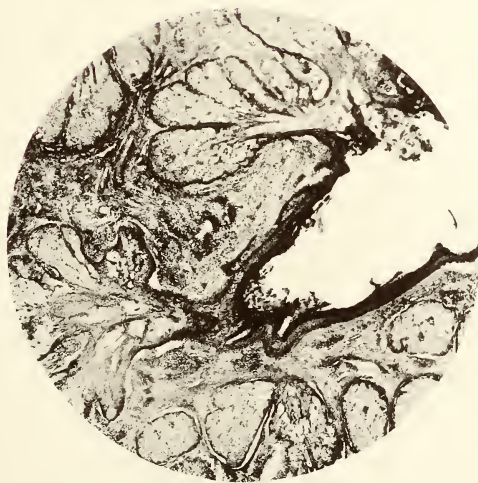
In the case figured here (Plate V.c) the tumor, situated on the back of an adult, was congenital and had lately begun to increase in size. When excised, it had reached the size of a hazelnut.

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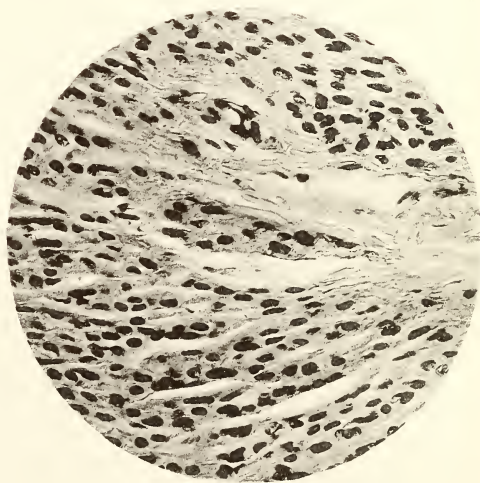
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a



b



c

- a.* Uropygeal gland of chicken. X 10.
b. Hypertrophy of sebaceous glands. X 25.
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A CASE OF DERMATITIS HERPETIFORMIS ILLUSTRATING AN UNUSUAL PUSTULAR VARIETY OF THE DISEASE.

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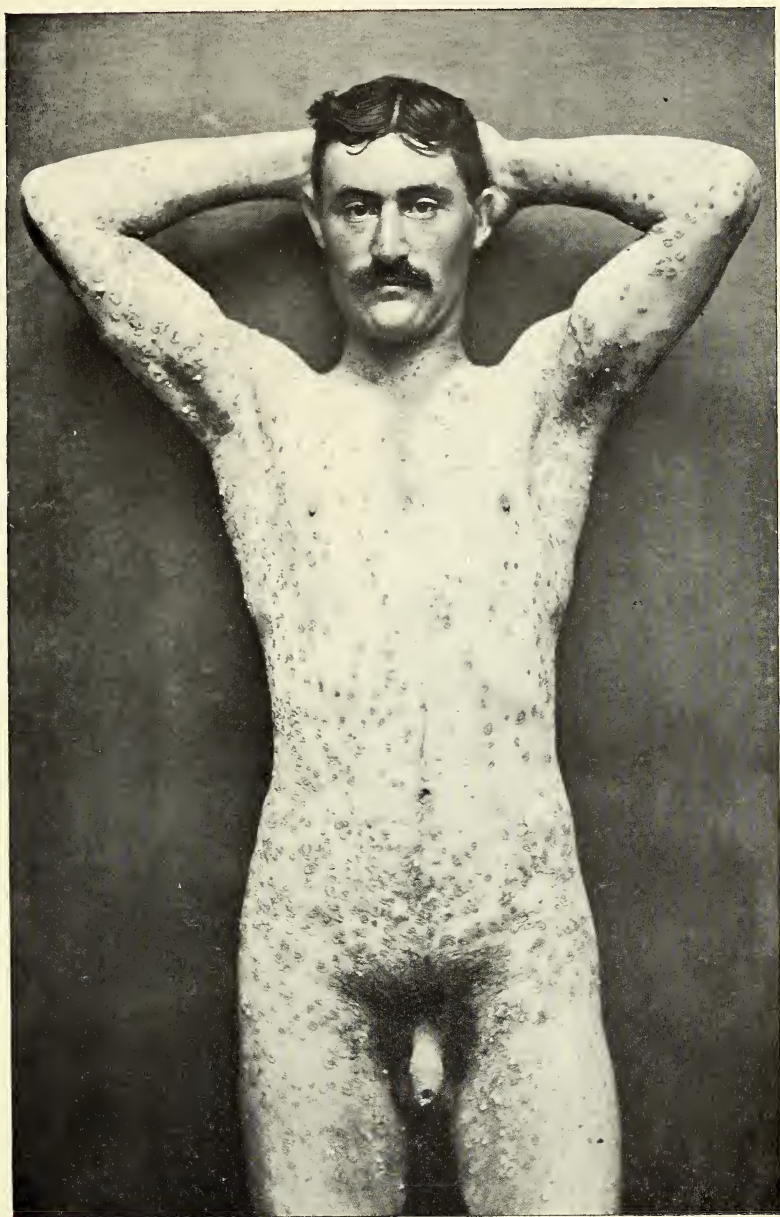
CASES of dermatitis herpetiformis pustulosa, owing to their rare occurrence and unusual interest, are always worthy of consideration and publication. The case to be described is an illustration of this class of disorder, displaying such a unique and almost unheard of evolution that we must regard each infrequent instance and do homage to its individuality.

F. N. H., 25 years old, of American birth. His occupation was that of a blacksmith; he was always robust, and had enjoyed the best of health. His family history is negative, as all its members were drowned in the Titusville flood when the patient was quite young. The only casual point to be taken into consideration in connection with the trouble is one suggested by the patient himself, namely: Just before the affection began he had been working in a shop under a large exhaust, which brought a strong draught upon his back, causing chilly sensations to permeate the spine.

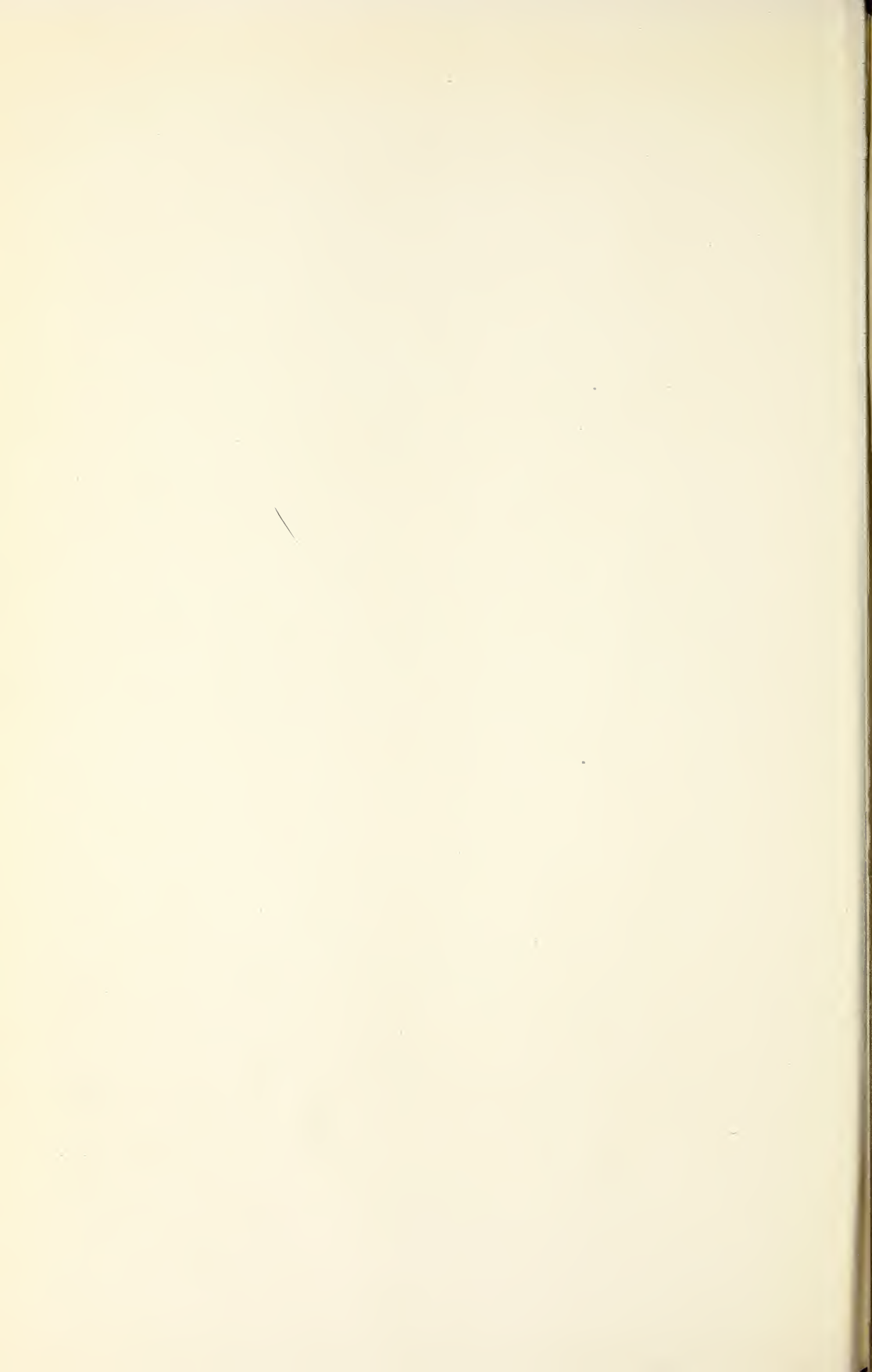
The affection, which he supposed to be an attack of la grippe, began on July 28, 1900, and was characterized by chills, fever, and nosebleed. For the first few days these symptoms alternated. Two days after the beginning of the constitutional derangement, the skin eruption made its initial appearance in both axillæ, in the form of a crop of "white blisters" like those now seen upon his body in the photograph. The genesis of the disease was accompanied with slight itching and a burning sensation. After an interval of twenty-four hours the eruption had proceeded down the body and

gradually spread to the inguinal and suprapubic regions, thickly covering the surface and then extending to other portions of the body.

On admission to the Buffalo Sisters of Charity Hospital, August 4, 1900, the condition of the patient was as follows: Somewhat pale; showing good muscular development, but not much fat; pulse full, beating about 110; temperature, $102\frac{1}{2}$. Nothing abnormal was to be found in the internal organs; there was no swelling of glands at this time. The eruption covered the entire body with the exception of the face, the palmar and the plantar surfaces. The anterior surface of the chest, the upper part of the abdomen and the back were the least affected, although these several locations were covered with disseminated lesions. At the time of the examination they were recognized as pustulo-blebs, pustules, rings and gyrate figures, depending as to form upon their age. Those found in the axillæ, the locality in which the disease was the oldest, had developed excentrically from the areola of the primary lesion. There were also a few lesions, developed during the previous night, which were pustulo-bullæ, the largest being about the size of a gold dollar. These were oval, having a thin covering and opaque contents, presenting the appearance of large drops of pus standing out on the skin. This condition everywhere prevailed upon the first examination. The more recent the locality affected the greater the number of incipient lesions. The inner side of the thighs, the last region to be involved, was covered with blebs. The incipient lesion was pustular. The pustules were oval, well raised above the surrounding surface and at first nearly uniform in size. As this condition progressed a portion of the pustules showed diminution, but they were pustules from beginning to end. At first they were discrete, later grouped, rarely, if ever, coalescing, never forming collectively into rings or figures. Their development was rapid and was accompanied by a slight red areola. The pustules were easily ruptured; indeed most of them seemed to follow that rule in establishing their involution. Upon removing the clothing of the patient drops of pus were seen proceeding from the site of the lesions spontaneously ruptured and running down the body. This feature was especially marked, and could be observed taking place simultaneously upon different portions of the body. This tendency would be accentuated by placing the patient in a bath. While the contents of the pustules of many were absorbed, the remnant of the pustules presented a shriveled appearance, the center being puckered and forming a quasi-scab. The surrounding red-



*Illustrating Dr. Wende's
Article on Dermatitis Herpetiformis.*



ness, however, would remain and rapidly develop centrifugally, with a well defined border raised above the surface. These rings continued to enlarge to varying dimensions. At first they were round, but after attaining a considerable size they would become irregular in shape. An interesting fact was noted in that the areola, after attaining a certain size, sometimes manifested different shades of red, and as a rule this margin bounded a moist surface. Within this border, upon the moist surface, a peripheral ring of pustules appeared. They were exceptionally small and flat, and showed a tendency to rupture easily and form a crust. Encircled by this ring of pustules there was a desquamated surface of greater or less size on the site of the primary pustule.

The whole lesion manifested an appearance of three distinct rings, namely: the erythematous, the circle of pustules, and the desquamating surface. These ring formations were irregular and, at times, would attain a diameter of a twenty-five cent piece, or even larger, as seen in photograph No. 2.

The border, at first, was well raised, but the lesions grew larger, and gradually decreased until divested of their triple-ring appearance. When they had obtained their fullest development, the advancing erythematous border became diffused and revealed numerous tiny scales. These rings would often meet and fuse with adjoining rings, so that a large surface was covered with gyrate figures. After their disappearance the skin would again resume its normal condition, with the exception of pigmentation. This particular course was followed in the evolution and involution of most of the lesions. No other primary lesions were seen up to this time during the first examinations. This record covers the first week in hospital. The hyperemic borders of the lesion in the inguinal region and extending down the inner side of the thighs became confluent and appeared moist; later, the surface was covered with crusts, practically obliterating the outline of all lesions. At other places, one crop after another appeared, many of which formed between other lesions, which were undergoing resolution. There would be three or four outbreaks of the pustules in a single day, always preceded by a chill of short duration, and beginning now to suggest a grouping of newly formed lesions. After the patient had remained in the hospital for another week—eighteen days after the beginning of the disease—the chills manifested themselves in a peculiar manner. Instead of affecting the entire body, only specific parts would appear to be involved, and the patient would say, "I am having a chill in my right leg;" again he would specify

other parts of the body. This lay diagnosis was easily substantiated by inspecting the particular portion claimed to be chilled, and the examiner could recognize the condition of cutis anserina limited to the locality indicated. This state of things continued for about one week, when it entirely passed away. The difference in temperature between the normal skin and that affected by a chill was 2° Fahr. taken with a surface thermometer during the fever stage.

The patient remained in the hospital from August 4 to Sep-



tember 26, 1900. His temperature at the beginning was 103, after the first chill; during the following ten days it reached 101° F., or little more, becoming normal, or nearly so, in the morning. Up to this time, and simultaneously with a chill, he would have a fresh outbreak of the eruption. There was a distinct ratio between the severity of the chill and the outbreak of the pustules. The skin condition gradually grew less and less marked, and a few days pre-

vious to September 5, 1900, the patient was almost free from both eruption and chills. But one afternoon he visited a neighboring saloon close to the hospital, where he drank a "few whiskeys," which indulgence was followed by a number of chills, after each of which, crop after crop of pustules appeared, until they almost covered his back, the place least invaded by previous outbreaks. There was, however, a decided decrease in the size of the pustules, the dimensions of the largest not exceeding a French pea. These pustules were nearly uniform in size, although much smaller than at first. They were characterized by an increased and more intense burning and itching. The whole affected surface was bright red, as it had become confluent from coalescence, leaving no unaffected skin between the erythematous spots which were covered with pustules aggregated into small clusters.

On September 20th, the patient was considerably better, having had only a few slight chills since the afternoon of September the 15th. On the legs, the affected surfaces, which had interfered with his walking and caused considerable pain, were now beginning to clear up. Very few new lesions had appeared within the last four or five days, although there were some fresh ones upon the chest and abdomen, marked by an erythematous base on which were seated numerous pustules of pin-head size and arranged in groups. The pustules were uniformly minute like those found within the rings of the lesion first formed. September 22d: On this day a fresh outbreak occurred, limited to the palmar and plantar surfaces, and preceded by intense itching, burning, and soreness, which were more marked than the previous subjective sensations. The pustules were small and deeply seated in the skin. September 25th: To-day on account of worry, the chills were unusual in number, the patient claiming that he had as many as fifty. There was no general outbreak, with the exception of an erythema covering the face marked by a few small discrete lesions. Improvement had taken place on the body, arms, and legs, especially on the feet and palms. In other places where lesions had existed, there only remained a slight amount of pigmentation. During the past week there was noted lymphadenitis in both axillæ, which became inflammatory in character, forming an abscess and terminating by bursting.

The result of a blood examination made at the time—thirty-five days after the beginning of the disease—showed that the red corpuscles were apparently normal in size, form, and number. A differential count of the white cells showed the following:

Polynuclear neutrophiles.....	51 per cent.
Lymphocytes.....	30 per cent.
Large and transitional cells.....	8 per cent.
Eosinophiles.....	11 per cent.

Several examinations of the urine revealed nothing of importance; only once a trace of albumen.

October 7th: The patient's body remained free up to this date, when he again indulged in four glasses of whiskey. This indulgence was soon followed by an intense irritation, rendering him almost frantic, and this experience was followed by a pustular eruption on the arms and neck. The special features of this attack were the same as before, the enlargement of the pustules, their variation in size, ranging from that of a pinhead to a pea (although the majority were of the smaller order) and again seated upon a slightly elevated red, unfiltrated base; a large portion of the body was involved. The pustules were this time more discrete, but again showed the tendency to establish the triple-ring appearance. The lesion did not readily rupture, as at the beginning of the disease. There was no definite history of chills and fever growing out of the attack, and there was no rise of temperature on the day following. The skin in localities unaffected by the lesions, especially on the hands, gave but slight evidence of exfoliation.

We subsequently saw the patient through two slight attacks with longer omissions between the seizures. One of these intervals continued for two months. In each attack there was no constitutional disturbance during the inception. The pustules varied in size from a pinhead to a French pea, and were distributed over the regions attacked in a isolated manner, showing some tendency to group. There was no apparent provocation for the last two attacks. The lesions were pustules and the involutions simulated the lesions of the first, although the pustules were comparatively few in number. The triple-ring appearance was seen, but not as distinctly as at the beginning of the disease.

Inoculations on various culture media were made from pustules on the lumbar region, the forearm, and the chest, on September 17, 1900.

The pustules on the first region named were but twenty-four hours old; the others slightly older. All appeared during the third week of the attack. During this week the patient was receiving daily a three-hour immersion in a bichloride of mercury bath of a strength of one to ten thousand.

The technique was as follows: The skin was thoroughly cleaned with ether and alcohol. A circular incision was made in the bleb, the covering laid back, and the fluid contents removed on a platinum loop with the greatest care, and used to inoculate the following media: One and a half per cent. acid and neutral agar-agar sheets, one and a half per cent. acid bouillon and neutral nutrient gelatine. The cultures were grown out at the room temperature, and resulted as follows: Growth occurred in forty-eight hours in all the tubes except the neutral agar. Cover-glass preparations showed all to be staphylococci. Further study of the cultures by the planting and the study of the micro-organisms on the various culture media, potato, gelatine, milk, bouillon, etc., showed the growths on the acid agar and the gelatine tubes to be pure cultures of the staphylococcus pyogenes albus, while the growth in the acid bouillon was a pure culture of the staphylococcus pyogenes aureus. No record at the time of inoculation, designating the pustules or their location, from which each tube or medium was inoculated, was made. Over a dozen cover-glass preparations made from the contents of the same pustules as the cultures, and also from numerous other pustules, failed to show any micro-organisms upon staining with the various bacterial stains. No cultures were made from the contents of the suppurating lymphatic glands of the axilla.

The examination of the histological preparations from an excised pustule (less than twelve hours old) including surrounding tissue, fixed in a 4 per cent. solution of formaldehyde and stained in hematoxylin and eosin, showed the early inflammatory changes to affect chiefly the epidermis. The description by Gilchrist¹ and others of the histological findings in cases of other varieties of dermatitis herpetiformis show that the lesions in their cases were located chiefly in the corium, while in the case described by Fordyce², the vesicles were located altogether in the epidermis. The earliest lesion found in these preparations was a small vesicle located in the lower layer of the epidermis, directly over the apex of a papilla. In this papilla were situated two dilated capillaries. The effusion from these into the epidermal layers pushed the cells of the rete mucosum outward and laterally. The typical cells,

¹ "The Pathology of a Case of Dermatitis Herpetiformis" Duhring. *Johns Hopkins Hospital Reports*, Vol. I., p. 365.

² "Report of Severe Case of Dermatitis Herpetiformis Presenting Many of the Features of Impetigo Herpetiformis." *JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES*, Vol. XV., p. 495.

with deeply staining nucleus of the layers of the *rête Malpighii* adjoining the *pars papillaris*, were found at the outer apex of the vesicle. The exudation from both capillaries had formed two compartments to this vesicle, with a fine dividing membrane, composed of one or two layers of cells of the *rête mucosum*. The contents of the vesicles were a fine meshwork of fibrin and red corpuscles with a few polynuclear leucocytes. The more advanced lesions in the case showed the presence of several conjoined vesicles, located in the outer layers of the *rête mucosum*; the cells of which were very swollen and edematous, causing a marked thickening of the epidermis. There was also extensive infiltration of polynuclear leucocytes, especially of the superficial layer of the skin. The cells surrounding the vesicles were split up into shreds by the exudation. The contents of the vesicles and outer cellular spaces consisted of a network of fibrin, with red blood corpuscles and polynuclear leucocytes in its meshes, with an albuminous fluid filling the clear spaces. Situated beneath this swollen vesiculated layer of the *rête mucosum* was a deeply stained layer of cells that were distorted, compressed and torn, showing in their external surfaces a frayed appearance; but still displaying evidence of belonging to the *rête Malpighii*. All traces of the papilla had disappeared and presented a flat surface to the corium. The corium was apparently not affected, there being no infiltration of leucocytes or edema in all the sections examined.

The method of hardening the tissue did not permit the differentiation between the eosinophilic and neutrophilic leucocytes. The sections stained with methylene blue and eosine, and by Gram's method, were carefully examined for the presence of bacteria in the vesicle and surrounding lesions, but none could be demonstrated.

The diagnosis should be regarded as a case of recurrent dermatitis herpetiformis pustulosa. This diagnosis of the disease is based upon its general course, and more especially on the following points: Its localization, beginning in the axilla; pruritus, which in the beginning was slight, but increasing as the size of the pustules decreased, until it became very intense; its polymorphic character; in the beginning of each acute attack displaying the typical triple-ring appearance, but subsequent attacks showing grouping of lesions upon the erythematous base, and, finally, the pigmentation of the skin which follows all cases of dermatitis herpetiformis where the cutaneous surface has undergone such an acute outbreak. While this case has a singular analogy to a type of ery-

thema multiforme, we believe that it should be classified as dermatitis herpetiformis.

Photographs were sent to Dr. L. A. Duhring, who agreed with the writers in pronouncing the disease of the pustular type of dermatitis herpetiformis.

So far as we have been able to discover from researches made, there are but few instances in which resolution took place in the manner here noted. The one reported by Dr. Liddell,¹ which closely corresponds with ours, is thus described: "There first developed a vesicle or bulla; the contents at first were clear, but in a few hours changed and became opaque." In this our case differed; the lesions were pustular in character from the first. The question whether the incipient lesions were pustular was carefully noted. Dr. Liddell continues his description, saying that synchronously with the opacity a reddish-pink areola appeared around the lesion within twenty-four hours after the evolution of the bullæ; the contents were absorbed, a scab was formed from the collapsed bullæ; thus there was formed three concentric rings: the innermost composed of scales, the middle, as a moist vallum, covered with vesicles, and the outer, the red areola. Dr. Liddell ends the report of his case by comparing it with one reported by Dr. Hallopeau,² which had been presented to the French Dermatological Society, Dec. 11, 1890. In these three cases there was but little difference in development, and there were many features in common to dermatitis herpetiformis. The strongest resemblance was between Dr. Liddell's and our case, which presented a central bullæ, vesicle or pustule surrounded by an areola or spreading ring, and between this erythema and original lesion a ring of vesicles or pustules formed. In Dr. Hallopeau's case there was a series of rings of erythema and vesicles alternated, causing a great many rings. There was one feature in both Dr. Hallopeau's and Liddell's cases that ours did not possess: viz., pain about the joints just preceding the beginning of the eruption. Perhaps the most interesting feature of the present case is the one relating to the etiological factor. The chilling influence of the draught which was apparent just before the onset of the cutaneous phenomena had such influence upon the governing centers of the nervous system

¹ "An unusual Case of Dermatitis Herpetiformis." *British Journal of Dermatology*. Vol. VIII., p. 385.

² "Dermatitis Herpetiformis in Concentric Circles, in Cockade-like Form." "Pictorial Atlas of Skin Diseases and Syphilitic Affections of Models in the Museum of the St. Louis Hospital," Paris, Part III., p. 65.

that it had considerable to do in bringing about this pathological condition. From the very beginning one could influence a fresh outbreak by the sudden exposure of the patient's body to a draught; the same effect could also be produced by worry. Another interesting and unusual feature relating to this neurotic side was the limitation of the chills and fever to one region.

Whether the staphylococci found in the cultures, made from the pustules of this case played any part in the production of the pustular character of the lesions is exceedingly doubtful, as no such microorganisms were found in the histological preparations stained with methylene blue and eosin, either in connection with the lesions or in the surrounding tissues.

IMPETIGO CONTAGIOSA BULLOSA AND ITS BACTERIOLOGY.¹

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CLIMATE and environment, with which may be included habit, custom, manner of living, food, and the other conditions instrumental in producing a national type or sectional difference in individuals, also contribute their influence to a certain extent in causing slight or marked clinical differences in the symptoms of a given disease, as seen in the various regions of the world. This is particularly true of diseases of the skin, especially those known to be of an infectious nature. The reasons for these varieties, or we may say special geographical differences, may be due: (1) To the special reaction of the individual to the infection, due in turn to his geographical position and its consequent contributing factors. (2) The infecting organism itself is likewise under the influence of the same factors and may consequently have therefrom a special chemotactic virulence.

Again, the types of an apparent clinical entity may change from time to time in a given locality with the variations of climate, temperature, and humidity, due to these influences, acting directly or indirectly upon the host, the infecting organism, or upon both. These facts have, no doubt, contributed more or less to the existing confusion of names, titles, and classifications with which dermatologic nomenclature is burdened.

Impetigo is aptly illustrative of these remarks. In Europe the impetigo of Tilbury Fox seemed to me to be the most prevalent type;

¹ Read before the Willan Dermatological Club of St. Louis.

in New York this type and the circinate variety of Unna seemed the most common, while in St. Louis, during my residence here of nearly five years, the majority of cases of impetigo in the summer months, when it is most prevalent, present a mixed bullous type. Here also the seasons present different impetigo lesions. In the winter months the carinate or Fox's variety are more frequent; or impetigo is often succeeded by an infectious dermatitis (eczema?), the pathology of which, not, as yet, been demonstrated. But to approach the subject more systematically, we may see that the types of impetigo contagiosa, as seen in St. Louis, may be divided into three clinical forms, each depending upon the future course of the initial lesion, the vesicle.

1. The "*stuck-on-crust*" variety, which is the type most frequently seen in Europe, and answers the classical description of Tilbury Fox. It begins as a tiny vesicle, which springs from apparently healthy skin, or from the center of a small red spot. The vesicle is filled with a clear fluid, which may remain clear or become cloudy or opaque at any stage of its progress. The immediate surroundings of the vesicle bears a direct relationship to its opacity; those in which the contents become opaque or pustular are generally surrounded by an inflammatory zone or areola; and conversely, as long as the vesicle contents remain clear this areola is very light or absent. The lesion progresses peripherally and enlarges to the size of a bird shot or dime. It is oval or round in shape, flat or flatly convex on top. It reaches a certain stage, when involution occurs by the absorption of part of the fluid and the formation of a crust, which looks as if it were stuck on from the the superficial position of the lesion. The crust is soon detached or falls off, leaving a faintly reddened spot, which disappears without scarring. This is also the *impetigo vulgaris* of Unna.

2. The second type is the *impetigo circinata* of Unna. The vesicle forms as in the first type, but it is never so tense, well filled with fluid, or raised as high above the surface. It attains a certain size, when the resultant small, flat flabby bulla dries into a flat, yellow, or greenish, granular crust, which, though, does not end the process, as in the first form; for then there forms about the crust a red zone over which the epidermis is perceptibly or almost imperceptibly raised by fluid to form a vesicular zone or ring, which likewise rapidly dries into yellow granular crusts, the disease extending peripherally by the continuous raising of the epidermis by fluid, preceded or not by an advancing areola. Thus by peripheral evolution and central involution quite large rings or annular patches are formed. Often involution does not occur in the older part, in which case an eczematous looking crusted area is formed, with irregular or escolloped borders.

In none of these cases have I seen the thick, heaped-up crusts, as in Schamberg's case; they were all flat, granular, thin, exposing, when raised, a slight, serous oozing underneath, which quickly dried.

The patches just mentioned, which fail to undergo the usual involution, become thickened and are the most difficult to cure of all the forms of impetigo.

3. *Bullous impetigo contagiosa* is, judging from its literature (under this name), a rare form of impetigo. It is rarely mentioned, except in its milder forms, the severer cases being undoubtedly confused with or called pemphigus, either pemphigus neonatorum, acute pemphigus, contagious or epidemic pemphigus. In St. Louis bullous impetigo is not a rare disease, but, on the contrary, is a rather common one, being very prevalent during the hot summer months, either occurring alone or often associated in a given case with one or both of the other forms. This year, during the hot, sultry weather, quite an epidemic occurred; in fact, the majority of the cases of impetigo presented various sized bullæ. The essential lesion of this type of impetigo is the bulla, which, though, always begins as a vesicle not differing from that of the first form, except that the vesicle very rapidly enlarges to a bulla, the latter ranging in size from $\frac{1}{2}$ to 3 or more inches in diameter. It is either tense or flabby, containing clear fluid, though generally the contents become cloudy before it reaches to maturity. In the very young and less resistant there is only a slight attraction of leucocytes, in which case the contents remain clear. The bulla reaches a certain size, when it seems to stop, the fluid is absorbed or escapes by rupture, which occurs from the least violence, as the diseased epidermis is very easily torn. Thus raw surfaces denuded of their epidermis are often left, at the periphery of which are shreds of epithelium. In the severe cases these surfaces, unless properly treated, do not heal, but remain raw and exuding. Crust formation is not a prominent feature, but the discharge from a ruptured bulla may dry into a very thin granular crust, and in some cases where this occurs there is often a peripheral extension, as that described in the circinate variety. Usually, though, absorption or rupture, with rapid healing of the detached epidermis, is the result. The predominant lesion, as was said before, is the bulla, but this bulla is always the result of the rapid increase in size of the vesicle by the lifting of a thin layer of the epidermis by fluid. It is truly remarkable how rapidly they form, a few hours sufficing for the formation of quite a large bulla; so rapidly to the nurse or mother that they seem, to them, to spring up almost instantaneously. But in my experience the initial vesicle can always be found if the case be care-

fully watched. The disease may be limited to a few bullæ upon the exposed parts, or about the body, but severe cases occur in which little surface is left uninvolved, the diseased areas being covered by bullæ, raw surfaces, and thin, granular crusts. The distribution is rather more regional than grouped, from auto-inoculation of different parts and on account of this auto-inoculability, the lesions are multiform unless quite a large surface is inoculated at once. Elliott describes a rosette formation about a large lesion, in his case, which was very extensively distributed.

The disease is very prevalent among the poor and uncleanly, especially among infants and young children, but adults are also attacked. Payne has seen it more among adults than children.

Here, in foundling asylums, the disease is very common. In such institutions, where a great number of bottle-fed children are congregated, the weaker infants are more susceptible to the infection, in whom the bullæ are large, form very rapidly, filled with a clear fluid, and the patients are more disturbed by the resultant toxemia from absorption. The constitutional symptoms of bullous impetigo vary. Generally the patient seems perfectly well, except for the eruption, but in young infants the record chart shows a rise of temperature of a degree or so. These cases, as I have before remarked, are generally described or diagnosed as some form of pemphigus, and the symptoms are marked, from slight to fatal septicemia or pyemia, though in the general run of cases the involvement of the skin is so superficial, with so little toxic absorption, or the virulence of the infection is so mild, that constitutional symptoms do not usually occur.

It is to be noticed that bullous impetigo will usually reproduce bullous impetigo. In families where several are infected the predominant lesion is a bulla, which remains as such in the younger members, but in the older lesions dry into crusts, producing the "stuck-on crust" or the circinate variety. In men, complete rings are often seen on the bearded portions of the face, the result of the latter form of progression, but in no case did the follicles become infected.

Unfortunately, little reliance can be placed upon any of my patient-to-patient inoculation experiments. It is interesting to note that "run arounds" (whitlow) occurred on the fingers of some of the children, their mothers, or nurses. This brings us to another observation, which has impressed itself upon me as of clinical value, namely, the apparent relationship of suppurative conditions to this form of impetigo as to the other forms, which has, of course, been often noticed by others, especially by Payne, in Albutt's "System of Medicine," Vol.

VIII. Discharges from the nose, ear, or ophthalmia is often associated with, or may precede, the eruption. This is, I believe, a point of great value in the prevention of the disease, especially in children's homes or asylums. In such institutions, and in families where there are very young infants, pustular discharges should be isolated or some arrangement made to prevent these other possible infections.

The examination of the blood of these cases disclosed nothing unusual or of interest, except that in none of the cases examined was there an increase of the eosinophile cells, which is possibly a differential point between this bullous eruption and true (?) pemphigus, and also the cases of so-called dermatitis herpetiformis occurring after vaccination.

The smears from the unruptured bullæ always contained a diplococcus, which, in the clear ones, remained as diplococci, or in tetrads or short chains, the longest chains consisting of six cocci. An interesting feature was here observed, but from a bacteriological standpoint it is not unusual, merely showing a healthy and rapid growth of the organism. In certain bullæ, just at the center of the top, an opaque little mass of pus could be seen, sharply defined against the surrounding clear or cloudy serum about it. (By gentle manipulation this little mass could be diffused throughout the contents.) If a needle be carefully inserted just above this drop of pus and the cover opened, a minute quantity could be obtained for a smear without disturbing it. This, when stained, showed the cocci in large clumps or zoogloea, surrounded by leucocytes. If this same operation was performed at the periphery of the bulla, where the contents were clear, always diplococci or short chains of cocci were found, therefore, showing (and this was often demonstrated) that the arrangement of the cocci depended upon the opacity of the contents, the number of leucocytes contained in the fluid, or the nutritional change in the media. These cocci varied in their affinity for certain staining reagents and in size, but were the same organism, as was afterwards proved by culture.

The cellular constituents of the bulla contents were as follows: The majority were neutrophile leucocytes, quite a number of large lymphocytes—especially in infants—only a few eosinophile cells, and seldom red blood-cells.

Unna, in describing staphylococcic impetigo, says that the cocci are never found in the leucocytes, that the coccic poison killed them at a distance, as it were. In many cases I found quite the contrary; large masses or a few cocci within the bodies of leucocytes; especially was this true in the pus drops at the top of the bulla. The

smears also showed a quantity of neutrophile granules, the probable remains of the battle. From the fact that the cocci are found in such large numbers in the leucocytes, we are possibly allowed to draw the conclusion that they are not very virulent to them, which fact, as to the mild virulence of the organism, is further demonstrated by animal inoculations.

Much has been written upon the *bacteriology of impetigo*; strange to say, the findings are not greatly at variance; not many have brought forward special organisms as the cause of the disease.

The splendid work of Sabouraud is too fresh in our minds to review it.

Unna, Blascho, and Kaufman have found a staphylococcus in *impetigo vulgaris*, which they think is biologically a special organism, but which Scholtz and Raab believe, from their investigations, to be the staphylococcus pyogenes aureus, of a mild virulence.

Crocker, Dubreuilh, Leloir, Dupray, Wickham, Scholtz and Raab, Armstrong, Bockhart, Schamberg, Gilchrist, Payne, and others, have found the staphylococcus in the unruptured vesicles, crusts, and in smears, while Sabouraud, Leraux, Kurth, Brocker, Balzer and Griffon, Curry, White, Unna, Gilchrist, and others have found the streptococcus.

Sabouraud and also Gilchrist formerly believed the staphylococcus the cause of *impetigo*, but lately they have both found the streptococcus in the unruptured minute vesicles.

Sabouraud, we all know, from his last investigations, affirms that the streptococcus is always to be found in the early vesicle of Fox's *impetigo*, and that the staphylococcus is a secondary infection, and is the infective organism in Bockhart's *impetigo*, which is essentially a pustular process. With both staphylococci and streptococci have inoculative experiments been performed, with positive and negative results, but none of these experiments are, I believe, extensive or convincing enough to firmly establish either as the specific causative factor of the disease.

In the findings to be described, eight cases of typical bullous *impetigo* in infants were taken. Various sized clear and opaque unruptured bullæ and small vesicles were wiped with alcohol, opened with a sterile needle, and the contents taken for examination, with a sterile platinum loop or capillary tube.

It is unnecessary to go into a detailed description of the growth and biological characteristics of the organism found; therefore, we will omit that, and merely state that in seven cases a pure culture of the staphylococcus aureus was grown on every tube inoculated. In the

eighth case the streptococcus and a short bacillus were also found, the latter a normal inhabitant of the skin. In three of the cases the inoculations were made by the well-known and excellent bacteriologist, Dr. Carl Fisch, and five by myself. Dr. Fisch also examined my tubes and confirmed my opinion. On agar the cocci did not differ from the ordinary staphylococcus of pus, only the colonies were possibly a little longer than usual in gaining the golden color. In bouillon they grew as diplococci and in short chains. By a long series of experiments one might see slight differences of growth and liquefaction properties between this organism and the staphylococcus of ordinary pus infection, if looking for them, but to the practical bacteriologist they were culturally the common staphylococcus pyogenes aureus, and nothing more.

The third generation of a pure culture of this coccus was inoculated into the skin of three infants, and of my own arm. The surfaces were first thoroughly washed, and then wiped with alcohol and lightly scratched with a sterile needle. The organisms were rubbed over this surface with a sterile platinum loop, by which they were conveyed from the tube.

Two babies produced no result, probably caused by the nurse's anxiety and care. In one, a small vesicle formed in twenty-four hours, which quickly crusted and healed. On my own arm, within two days a clear vesicle had formed, which increased to the size of a coffee bean. It was accidentally broken, but soon filled up again, from which was obtained a pure culture of the staphylococcus pyogenes aureus, or the same organism inoculated.* A control experiment was made by the same steps, only the organisms were not applied, which produced no result.

It has always been my custom, where possible, to take smears or crusts for examination in these cases, with the result that I have found always diplococci or zoogloea of cocci. But, of course, these findings are not extended enough to be of convincing value. We must remember that on the normal skin we have both the staphylococcus and streptococcus, which fact menaces, to a certain extent, the value of all experiments where these organisms are found; however, we do not know when or how they may become virulent enough to cause disease. The old question of soil enters here into this, as it does into all infectious processes, but to an equal extent is the question of the virulence and chemotactic qualities of the organism. If Unna's morococcus or serotacticoccus is the staphylococcus, as is believed by Scholtz and Raab, and others, then we have here again the staphy-

* The special vulnerability of this experiment we, of course, recognize.

lococcus, with a strong serotactic action. In this connection it is also interesting to note the striking association which exists between impetigo, in all its forms, and known staphylococcic and streptococcic infections.

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REPORT OF TWO CASES OF IMPETIGO CONTAGIOSA
BULLOSA: ONE OF THEM FATAL.¹

BY JOSEPH GRINDON, M.D.,

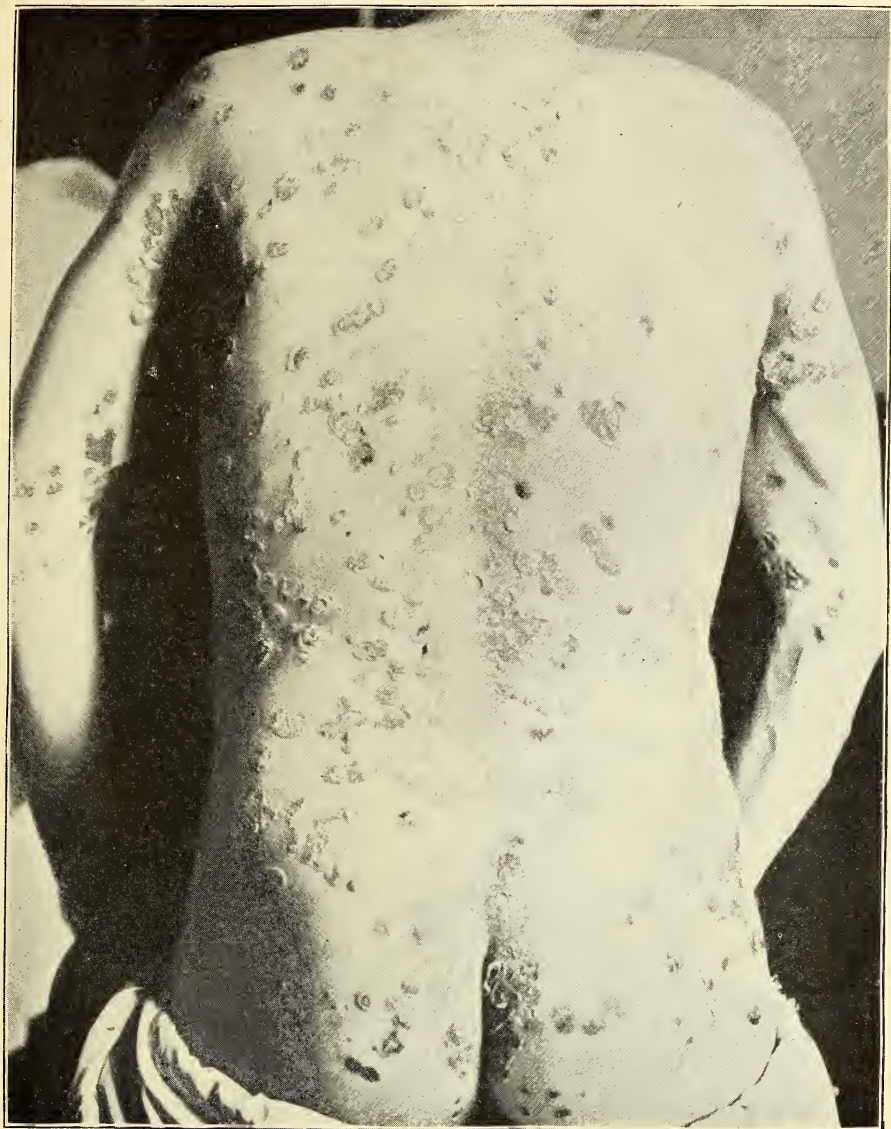
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THERE are several points about impetigo contagiosa which long since claimed my attention; one of its apparently greater frequency in St. Louis than in the east of this country or in Europe. Judging from the relatively slight attention given it in most text books and its rather rare mention in special journals, one is led to think that it cannot be as common in other places as it is here. For the last ten years, and especially the last three, I have seen a very large number of cases, both in clinical and in private practice, among wealthy and exclusive circles, as well as among the poor. Again it is usually spoken of as being a disease of children. In the last year I have seen more adults than children affected; the greater number being men who traced the infection to barber shops. Again, the clinical type described by Tilbury Fox is shown by but a minority of the cases, the majority being of the large bullous or of the circinate type, just now so well described by Dr. Engman.

This circinate or annular type is occasionally described by observers in other cities as though it were something of a rarity. We see it so constantly that it has become a commonplace. The center, from the size of a dime to that of a silver dollar, looks, as Dr. Hardaway says, like a carbolic acid burn, and is circumscribed by a narrow, continuous vesicular zone, containing, it may be, barely enough serum to constitute it a vesicle. Again, in the large bullous type the lesions may be the size of a hen's egg, although usually much smaller. Occasionally the bullæ flatten down in the center, so that the lesion much resembles a vaccine vesicle.

In this connection I wish to report two cases of the disease. The first I saw a year ago last summer with Dr. Hoeffer. The patient was a German workingman. The scalp was covered with a foul, dense, ill-smelling crust which had existed for some time prior to the appearance of the lesions on the body. The latter are well shown in the accompanying photograph, and consist of large

¹ Read before Willan Dermatological Club, St. Louis.



*Illustrating Dr. Grindon's
Article on Bullous Impetigo.*

bullæ abundantly distributed over the upper part of the body. On the legs they were not so numerous. In each axilla and contiguous parts of the thorax, the cuticle was lost over a large extent of surface, so that the lesion looked like a burn of the second degree. The case got well in a few days under ordinary treatment and has since so remained.

The second case is one of *fatal* impetigo contagiosa bullosa in the new-born. On the 27th of last August I was called in consultation to see a male infant of five days in a family of well-to-do people, living some miles out of the city. The father had some days before contracted impetigo contagiosa in a barber shop and presented well marked lesions about the face. He had kissed his new-born son, who on the third day of life developed large bullæ about the face and forearms. These readily tore open, leaving extensive excoriated surfaces.

The treatment agreed upon was not carried out quite as intended and the disease spread like wildfire, so that when I next saw the case, four days later, the entire surface of the body, with the exception of the scalp, a few islands on the face, a plastron-like patch over the anterior surface of the chest, and the palms and soles, were denuded of the upper layers of epidermis. The entire body, except the areas mentioned, was red and raw, like a freshly blistered surface; nevertheless the child nursed and slept well, its bowels and kidneys were normally active, and its temperature was only a little above 100°. The raw surfaces did not bleed.

On the next day, the general condition seemed unchanged, the disease had not further invaded the remaining sound area and the affected regions were drying up. But on the night of September 3d, eight days after I was first called in, being the tenth day of the disease and the twelfth of the infant's life, it had ten convulsions in rapid succession and died, the temperature having risen to 104°.

Besides the father, a brother aged four, a sister aged three, and the nurse in attendance on the infant, contracted the affliction in typical form. The boy's case was unusually severe, he having many large lesions on the face, limbs and trunk, which for some days continued to spread under applications of equal parts of citrine and zinc ointment, and later, washing with saturated solution of boric acid, but finally healed under frequent dusting with dry boric acid.

Syphilis was duly considered as a possibility and excluded.

Society Transactions.

NEW YORK DERMATOLOGICAL SOCIETY.

290TH REGULAR MEETING, OCTOBER 23, 1900.

HENRY H. WHITEHOUSE, M.D., *President*.

A Case of Epidermolysis Bullosa. —Presented by DR. E. B. BRONSON.

The patient was a child of two and a half years, whose father and mother were both healthy. There was no evidence of hereditary syphilis. Two children had been born previously, and were healthy. Bullæ had been first noticed on the child's feet two or three days after birth, following a bath; later they had appeared over the hands and body. Since that time the child had never been entirely free from them. The blisters had always apparently followed some injury to the skin. They usually develop in the course of a few hours, and reach the size of a silver dollar. Often the contents are bloody. After subsiding once, they occasionally refill. There is no history of urticaria in connection with the case, but the child experiences considerable itching. There is no aggravation of the disease in summer.

DR. C. W. ALLEN concurred in the diagnosis.

DR. J. A. FORDYCE said that he had had a case of epidermolysis in a patient with pronounced muscular tumors. This had suggested the possibility of a central lesion. In that case trauma to the skin would result in the formation of blisters in about twelve hours.

DR. H. KLOTZ commented upon the amount of itching present in the case. In some respects the patient also exhibited some of the features of dermatitis herpetiformis.

DR. HENRY H. WHITEHOUSE said that he agreed with the diagnosis, but did not recall having seen a case in so young a subject.

DR. BRONSON said that the mere fact that the disease follows traumatism should be sufficient to distinguish it from dermatitis herpetiformis. Writers have associated it with urticaria or erythema bullosum, or with pemphigus. The cachexia of pemphigus was lacking in this case. Urticaria was not present, although there was a great deal of itching. Yet it did not seem that the disease was wholly due to traumatism. The blisters did not appear in linear form, following scratch marks, but were almost invariably rounded in shape. They were not especially grouped.

A Case for Diagnosis.—Presented by DR. H. KLOTZ.

This patient, Mrs. Caroline G., fifty-one years of age, born in Germany, presented herself for the first time at the German Dispensary on Sept. 20th, with an eruption distinguished by some peculiarities of distribution, color, infiltration and several other features. She is married, has one son, who is of age and apparently in good health; three other children died at an early age from different diseases; she claims to have been in good health herself. In July she had an eruption similar to the present one on the abdomen, which disappeared again after a short

time. The present one was noticed about four weeks ago. It consists of numerous slightly elevated and scaly patches of a bright red color, of irregular shape and grouping, distributed more or less symmetrically over part of the face (lips and nose), front and back of both shoulders, the extremities, particularly the lower ones, and the palms, some lesions on the lower leg were distinctly hemorrhagic. On the back of the right foot there is seen a lesion somewhat larger than the rest, being about the size of a 50-cent piece, much more deeply infiltrated and superficially ulcerated. On the left lower leg there is a similar patch, but not quite so far developed. The nails of several fingers show distinct malformation, but no active process of inflammation. On the lips and on the tongue several superficial abrasions were found. No swelling of lymph nodes. There is very little itching or other sensory irritations present, general health apparently good. Some of the features of the case strongly point to *syphilis*, particularly the lesions on the right foot and left leg, the affection of the nails, the lips and the tongue. The bright red color, the character of the infiltration and of the scales render this diagnosis less probable and remind you of *psoriasis*. The premycotic stage of mycosis fungoides has of late been mentioned quite frequently in the discussions of the Society, but I believe sometimes with less reason than would be done in this case.

The patient was put on mixed treatment on Sept. 20 and has continued it for four weeks. Although the abrasions of the lips and tongue have healed and several of the patches on the shoulders have been reduced to perfectly flat red spots, I cannot consider the effects of this treatment marked enough to strengthen the diagnosis of *syphilis*.

DR. S. SHERWELL thought the case was unquestionably one of *psoriasis*, although so atypical in distribution. The fact that it had first appeared so late in life also pointed to this diagnosis.

DR. CHARLES T. DADE thought the case one of *psoriasis*, and that the lesions on the toes were the result of traumatism, varicose condition of the legs being so pronounced as to account for this.

DR. A. R. ROBINSON said he would not like to make a diagnosis of ordinary *psoriasis* here. The lesions on the feet were opposed to such diagnosis. Those on the back resemble *psoriasis* very closely, but there are so many cases of *seborrhoic eczema* that he would look upon it as a *seborrheal* form of a *psoriatic* condition, and not a pure *psoriasis*.

DR. FORDYCE said that he was not prepared to call it a case of *psoriasis*, pure and simple. It certainly presents many of the features of *psoriasis*. Some of the patches were made up of individual lesions, and in this respect it resembled somewhat a grouped papular *syphilide*.

DR. GEORGE T. JACKSON said that the case impressed him as one of *psoriasis* because of the color of its lesions, their scaling and symmetrical distribution. The lesions on the feet might have been entirely due to traumatism.

DR. G. H. FOX looked upon the case as one of undoubted *psoriasis*, although peculiar in the localization of the lesions. He had photographs of one or two cases of gyrate *psoriasis*, a form which is especially apt to occur in the scapular regions and around the axillæ. The color of the eruption and its superficial character would lead him to leave the question of *syphilis* entirely out of consideration. The lesions about the toes were quite probably due to accidental irritation.

DR. WHITEHOUSE said that he saw nothing against the diagnosis of *psoriasis*. It was often difficult to differentiate exactly between *psoriasis*, *seborrhoic eczema*

and an eczema of psoriatic type. He would not make a positive diagnosis without watching the case and studying the effect of treatment.

DR. KLOTZ said that he had of course thought of psoriasis, but the case certainly presented some unusual features. The scaling was not entirely characteristic, the scales being very closely adherent, not showing the usual bleeding surface underneath on removal. The history, particularly the almost entire absence of itching, seemed to be against the diagnosis of seborrhoic eczema.

Two Cases of Dermatitis Herpetiformis. —Presented by DR. G. H. FOX.

The first was a woman in whom the lesions were on the back of the neck and scattered over the back, and resembled a syphilide quite closely. Her present attack was of four months' standing. The other patient was a man who had had the eruption for three months. It presented peculiar limitation to the lower portion of the back, and was similar to a case which he had presented to the society some time ago. There was a tendency to localization on the extensor surfaces of the extremities, and its herpetiform character was especially well marked.

DR. SHERWELL accepted the diagnosis.

DR. ROBINSON said that he was inclined to look upon all such cases as the result of a toxemia. He had had the best success from the internal administration of antipyrin and quinine. In one case particularly, seen by Dr. Bronson, he had been able to stop every one of the attacks within twenty-four hours. He gave twenty grains of antipyrin and five grains of quinine a day.

DR. KLOTZ agreed with the diagnosis. In regard to what Dr. Fox had said about the localization, he wished to mention that for several years he had had under observation a girl with an eruption restricted to the hands and forearms, which he considered a dermatitis herpetiformis.

DR. FORDYCE thought all these cases were the result of some internal state, probably some form of toxemia.

DR. JACKSON said that he had had good success with one case from the administration of antipyrin, all symptoms having been promptly relieved by it.

DR. ALLEN said that these cases occur in such a diversity of states of health, that it was hard to look upon any one condition as the etiological factor. The urticarial feature was so well marked in some cases that it was but natural to look upon the etiology as somewhat similar to that of urticaria in general. Salophen and salol seemed to retard the development of bullæ and diminish the itching, but this controlling influence was not noticed in all cases.

DR. PIFFARD asked Dr. Robinson whether he regarded this toxemia as probably metabolic or bacillary.

DR. ROBINSON replied that he did not know, but was inclined to the theory that it was bacillary.

DR. SHERWELL in relation to etiological factor said that at one time he had had a series of cases that had been observed by both Dr. Winfield and himself. In a number of these sugar had been found in the urine, but further study had shown that this was by no means a constant condition. It could not be denied that there was usually present some deranged metabolism. He had found salol and salophen useful in this disorder as well as in urticaria, and presumed that the beneficial effect was owing to its antiseptic action on the bowels.

DR. WHITEHOUSE accepted the diagnosis, although he said the localization was very unusual. Dr. Fox had presented about one year ago a case showing an almost identical localization. He did not think dermatitis herpetiformis was dependent upon any one causative factor. It was apparently a general toxemic

condition, and was frequently seen as a result of shock, in connection with pregnancy and in various other derangements of the system.

A Case for Diagnosis.—Presented by Dr. Fox.

The patient was a child having a congenital eruption which varies in severity from time to time. There are scars and small atrophic patches all over the body.

Dr. ALLEN suggested the diagnosis of scrofuloderma.

Dr. FORDYCE said that for want of a better term it might be called a tuberculide. The term "scrofuloderma" was applied to more definite conditions. The case under discussion looked to him like a lupus erythematosus.

Dr. KLOTZ said if the case were one of scrofuloderma he would expect that there would be more breaking down of tissue.

Dr. BRONSON said he would reject the diagnosis of lupus erythematosus, and he saw no distinct evidence of its being a tuberculide. He would not venture upon a diagnosis.

Dr. DADE said that unquestionably the child presented a good many signs of tuberculosis, particularly in the bones of the leg and ankle.

Dr. SHERWELL said that the lesions present, such as they are, evidently occur in a strumous child, who should be given arsenic, iron and cod liver oil. He would not make a more exact diagnosis.

Dr. FOX said there could be no doubt about the child being scrofulous, and probably tuberculous, nevertheless the lesions do not have the dark color of most cases of scrofuloderma. If the child could have been seen by daylight it would have been possible to see better the wrinkled, atrophied streaks on different portions of the body, showing that this was not an ordinary case of scrofuloderma.

A Case of Miliary Papular Syphilide with an Eczematous Condition of the Face and Back of the Hands.—Presented by Dr. Fox.

The patient was a man who presented a scar on the penis and a scaly condition of the arms and legs almost suggesting ichthyosis. There was marked enlargement of the lymphatic glands.

Dr. BRONSON said that there were probably two processes going on there. Most of the superficial lesions seemed to be accidental.

Dr. ALLEN said that it was not uncommon to see eczematous, and particularly urticarial, eruptions superimposed upon syphilides.

Dr. WHITEHOUSE endorsed the view that the case presented an eczematous process in addition to a papular syphilide.

Dr. FOX said that the fine miliary papular syphilide usually occurs in groups, but in this case the groups had almost run together. All of the fine papules were still distinct. The disease had passed its prime, but the grouping was apparent and was characteristic of the miliary papular syphilide.

A Case of Tubercular Leprosy.—Presented by Dr. ALLEN for Dr. LUSTGARTEN.

This patient came from the region of the Baltic, and was the third case of the kind seen by Dr. Lustgarten, as coming from the same locality. She had been eight months in this country.

Dr. SHERWELL said that he did not feel disposed to accept without question the diagnosis in spite of the carefulness of Dr. Lustgarten's observations. The lesions were suggestive of leprosy, but also of sarcomatous nodules. He had been unable to detect areas of analgesia or anesthesia. He would not be satisfied to make a

positive diagnosis at this stage unless one of the nodules had been excised and found to contain the leprous bacillus.

DR. DADE thought the nodules in the ear were particularly characteristic of leprosy. Anesthesia should not be expected in leprosy occurring in the nodular form alone, as does this case.

DR. FORDYCE said that the case seemed to him absolutely typical of tubercular leprosy. He felt no hesitation in pronouncing it such.

DR. JACKSON expressed the same opinion as the preceding speaker.

DR. FOX said that the case did not impress him as one of undoubted leprosy, although it resembled it. Its rapid development and the appearance of the leg seemed to him against such a diagnosis. He would like very much to see this case a few months later.

DR. WHITEHOUSE agreed with Dr. Fordyce regarding the lesions on the legs. These, together with those on the arms and face, seemed to be sufficiently characteristic to warrant the diagnosis of leprosy.

DR. ALLEN said that if the case had been presented for diagnosis he would have at once said that it was leprosy.

A Case of Dermatitis Herpetiformis.—Presented by DR. C. W. ALLEN.

The patient was a woman presenting this disease in the form of rather large frank bullæ, with few groups, but a pronounced urticarial element. This was the first attack and had begun about six weeks previously. The urine had been examined and found free from both albumin and sugar. There had been no involvement of the tongue. She had recently lost flesh and had not felt in her usual health.

DR. BRONSON thought this diagnosis would answer, although the case was not very typical. The case corresponded very closely with what used to be called pemphigus pruriginosus.

DRS. DADE, ROBINSON and KLOTZ accepted the diagnosis.

DR. FORDYCE said it was largely a matter of definition. Some would call it pemphigus, and others would designate it dermatitis herpetiformis.

DR. JACKSON said that before Dühring described his dermatitis herpetiformis the case would have been called one of pemphigus pruriginosus. He was inclined to the belief that most European dermatologists would so regard it.

DR. FOX said that in England and Germany it would be called pemphigus without any question, and precisely similar cases had been presented to this society in the past and had been diagnosed as pemphigus.

DR. H. G. PIFFARD said that the diagnosis was correct, but the name was wrong. It should be called dermatitis multiformis.

DR. WHITEHOUSE said that in his experience these cases of bullous dermatitis herpetiformis had been extremely rare. He always felt like watching them carefully to see whether they did not prove to be examples of pemphigus.

A Case for Diagnosis.—Presented by DR. CHARLES T. DADE.

The patient, a man fifty-five years old, of full blooded habit, large and heavy, drinks a good deal (a bar-tender), always has enjoyed good health. Three years ago for first time noticed doughy swellings in lower abdomen, buttocks and legs—no subjective symptoms. These came suddenly, increasing in number for a day or two, then remaining stationary for some time, and at the end of three months all had disappeared. This is the third attack and most persistent. Patient presents a large doughy mass just below umbilicus, size of hand; over buttocks, thighs and legs similar doughy and nodular masses, some of the smaller ones looking like le-

the lesions—some show slight erythema over them, most of them none. This attack came as before, suddenly, and has been on the increase. Several lesions have appeared since patient was first seen two days ago. Patient's circulation poor.

In the discussion of the case of swellings or tumors suddenly appearing and disappearing in a middle-aged man, presented by Dr. Fox or Jackson:

DR. KLOTZ made the remark that the sudden appearance of such circumscribed swellings and their voluntary disappearance suggested an embolic process much more than anything else. Of what material the embolus might be, he was unable to state.

DR. FORDYCE said there was probably present here some chronic infection of the lymphatics.

DR. ROBINSON said he would look for obstruction in the venous system rather than in the lymphatic, in order to account for the condition presented by this patient. It was rather an inflammation than an obstruction.

DR. SHERWELL thought it was too superficial for fibroma. It was probably connected in some way with the lymphatics.

DR. DADE said that the dissemination seemed to be against the theory of a lymphangitis. It had entirely disappeared and had remained away for months at a time. It seemed to him more probably an example of more or less persistent angioneurotic edema.

A Case for Diagnosis.—Presented by DR. C. W. ALLEN.

Mr. K., *Æt.* 39, S., came to me first in 1895 for the removal of a stone-like concretion which had slowly formed in a dilated gland upon one side of the frenum. Circumcision had been done seventeen years ago because of adherent prepuce. The removal of the foreskin had left the glans penis in a constant state of scaliness and slight tenderness. There had been several attacks of gonorrhea, but no history of syphilis. In February or March of this year patient noticed a hardness about the meatus, extending within the canal, and also upon one side of the glans and prepuce, simulating the indication of a chancre. A portion of the tissue from the side of the glans was excised for examination.

A round-celled inflammatory infiltration was found, suggesting syphilis, but not epithelioma. The specimen showed large cavernous spaces from the natural tissue of the glans.

In May there was some exulceration about the meatus, but the wound on the side of the penis had healed, as did the meatus, under applications of a silver solution. From about June 1st to October 1st, patient believed himself well. After drinking moderately he then noticed a gluing of the lips of the canal, and superficial ulceration with slight bleeding again showed itself at the meatus. The site of the scar on the side began to harden, and here too slight exulceration occurred. There is now a marked induration of the region of the meatus, pain on urination, bleeding when the dressings are removed, and a button-like induration of the tissues upon the side of the penis.

The glands in the groin are now enlarged, but have not attracted the patient's attention. There is no history of cancer in the family.

DR. SHERWELL thought this cause, if not already epithelioma, would inevitably develop in a short time into a cancer, as a result of the continued irritation. For this reason he would recommend radical measures soon, if amendment did not soon follow treatment.

DR. ROBINSON said that he had examined the penis very carefully and had not signs of erythema nodosum; absolutely no pain, tenderness, or itching in any of

found the firmness, sharp limitation or color of an epithelioma. He was disposed to look upon it as a localized fibrosis—a condition not very infrequently found on the penis. The ulcerative condition was the result of an infection with pus organisms. He would exclude epithelioma here.

DR. KLOTZ said that without history of the case, he would think of a gummatous process, but the long duration made it not so probable.

DR. WHITEHOUSE said that he agreed with Dr. Robinson that it would be better to adopt measures to get rid of the pus organisms before definitely accepting the diagnosis of epithelioma.

DR. ALLEN said that there had already been one ulceration, which had healed up under nitrate of silver and an application of aristol, but the induration had persisted. He had never received any antisyphilitic treatment. Personally he believed that in spite of the history or absence of signs of syphilis a course of antisyphilitic treatment would be justifiable. He would do this for the reason that he frequently saw small localized lesions in patients with an entire absence of history and other signs of syphilis. At the time of the excision an examination of the specimen showed nothing pointing to epithelioma. Last summer one of his specific patients, having a large mass of glands in the groin, had gone into a hospital, where the glands had been excised. The result had been a cicatrix which made so much pressure as to leave the limb very painful. He felt sure if antisyphilitic treatment had been persisted in in that case the person would have been saved this deforming and disabling operation.

NEW YORK DERMATOLOGICAL SOCIETY.

291ST REGULAR MEETING, NOVEMBER 27, 1900.

HENRY H. WHITEHOUSE, M.D., *President*.

A Case of Lichen Planus.—Presented by DR. C. W. ALLEN.

The patient was a woman who was shown because of the extent of the disease. It extended from the back of the neck to the dorsum of the feet. There was also a dermatitis on the legs, probably the result of the strong applications which had been used. There was some edema present, but no arsenic had been taken recently.

DR. CHARLES T. DADE said that he had treated three cases of acute lichen planus with 5 per cent. guaiacol ointment, and in each instance the itching had been promptly relieved. There had been no poisoning from absorption.

DR. H. G. KLOTZ said that he had under observation last summer an unusually severe generalized case in an elderly woman. The itching had been intense, and, following out suggestions made at previous meetings of this society, by Drs. Taylor and Cutler, he had made use of chlorate of potassium internally. He had to acknowledge that it had acted very well, although he had been very skeptical about it at first. Unna's ointment had been used locally.

DR. E. B. BRONSON said with regard to the generalization of the eruption that the larger proportion of cases seen by him recently had exhibited this tendency. He relied almost exclusively upon carbolic acid and linseed oil, combined with

liquor potassæ. It almost invariably relieved the itching and improved the appearance of the papules. He used strong carbolic acid.

DR. G. H. FOX said that, in his opinion, there were few diseases of the skin in which local treatment had so little effect as in lichen planus. The extensive cases sometimes run an acute course and recover without treatment; on the other hand, he had recently seen a case of twenty-five years' standing which had been previously treated by members of this society. It was evident, therefore, that in some instances the ordinary treatment is futile. He believed arsenic often did more harm than good. With regard to Unna's ointment, Kaposi had stated that he had never seen any benefit from it, and this had been his own experience. The general treatment of the patient was of far more importance than the internal or local treatment of the disease. He had used the pure carbolic acid sometimes on the individual hypertrophic lesions with fair result.

DR. S. SHERWELL said that it had been his practice always to give wine of colchicum and alkalies, and sometimes arsenic. The usual presence of hyperacidity of the urine or of manifest rheumatic conditions had led him to adopt this plan of treatment. The local applications are so different in different conditions of this disorder that he could not recommend any one thing. He used the bichloride white lotion, usually quite strong.

DR. P. A. MORROW said that he was disposed to agree with Dr. Fox that in many of these cases the best results would be obtained by internal medication. He recalled a case of generalized lichen planus which had come under his observation a year or two ago. The patient was somewhat run down at the time, and he had given her cod liver oil and general tonics, and also the acetate of potash as a preparatory treatment, but she had improved so very rapidly under this medication that it had been continued and the eruption had disappeared entirely, with the exception of a small patch on the back. This had remained localized for about a year and a half. After an absence of a year the patient had returned to him this last October, and he had then found exuberant lesions resembling lupus. As it was on the back, where scarring was not objectionable, he had removed them with the curette, and had been surprised to find that they were quite soft. It was very difficult to discriminate between the effect of the remedy and the spontaneous tendency of the disease to improve. Locally, he had used carbolated vaseline or similar preparations to relieve the itching; sometimes camphor and carbolic acid in the form of an ointment.

DR. A. R. ROBINSON said that the prognosis was very different when the lesions were generalized or localized. When general, recovery was often quite rapid, and, on the other hand, the localized form was often very obstinate. He had tried Unna's ointment without benefit at any time, and a score of other local remedies, but in the localized form he had found them all useless. Internally he depended always upon arsenic, although at one time he had believed it to do harm. That opinion had arisen probably from having made use of too small doses. The remedy should be pushed up to the physiological effect, and he did not believe the right effect of arsenic was obtained unless alkalies were administered coincidentally. The arsenic had been pushed in the case just presented, and it had certainly improved steadily under this medication.

DR. HENRY H. WHITEHOUSE said that he agreed with the opinions expressed by Dr. Fox and Dr. Morrow with regard to the treatment of the generalized form; the simpler the local treatment, the better. He felt quite certain he had secured good results from Unna's ointment in the localized form, provided the

ointment was used strong enough—15 grains or more of bichloride to the ounce should be employed if no benefit is obtained from weaker ointments.

DR. FOX said that in the case that he had referred to the arsenic had been given up to 80 drops a day, with disastrous effect on the stomach, but without controlling the disease.

DR. BRONSON said he was convinced that there was no one factor so obvious in the etiology as scratching. If the patient could be relieved of this a long step would have been taken towards relieving the thickening of the skin. Any antipruritic used judiciously would, therefore, tend to effect a cure. He would not think of using a caustic, such as pure carbolic acid.

DR. G. T. ELLIOT stated that he had seen lichen planus get well under alkaline treatment or arsenic, and also under the combined chlorate of potash and nitric acid treatment first suggested by Boeck. At present, he had a case in private practice of long standing, which was getting well from quinia and baths of pine needle extract.

DR. GEORGE T. JACKSON said that he had attended a severe and acute case of lichen planus in the person of a physician who had been overworked, and was in poor general health. He had recovered very rapidly under the use of the spinal douche, phenacetine and plenty of fresh air and sunlight.

DR. G. T. ELLIOT said that he had seen the acute generalized variety as well as the localized cases recover under the use of Unna's ointment. If two grains of bichloride to the ounce did not suffice, the strength should be increased until it acted satisfactorily. A very marked case of the verrucous variety was recalled which had recovered promptly under the ointment in the strength of 12 grains of HgCl_2 to the ounce. It should be remembered that there are 20 grains of carbolic acid to the ounce of Unna's ointment, so that Dr. Fox's statement that carbolic acid was just as good as the ointment did not diminish the value of the combination.

DR. ALLEN said that he had carried out most of the plans of treatment mentioned, including an alternating douche of hot and cold water. The patient presented had been using upon the arms Unna's ointment, and with apparent benefit. There had been no application to the neck, and the latter had broken out acutely during the time the ointment was being used. If Dr. Fox's contention were strictly tenable the neck should have been in as good condition as the arms. With regard to the surgical treatment of localized lesions, he wished to say that he had resorted to curettage for a considerable time and had made the method public by mentioning it in his lectures. He had found much benefit from curetting alone in scattered lesions, and healing had often taken place without other treatment. He now had under treatment a gentleman who comes to him as soon as any spots appear. They are curetted out easily, the tissue being almost as soft as lupus tissue. The curetting extends some little distance below the skin, but the wound heals kindly and the disease does not return in loco. He had used the same treatment in psoriasis, and with very satisfactory results—in a few cases better even than from the application of chrysarobin. Of course, the treatment was only applicable to a limited number of cases.

Cases of Prurigo.—Presented by DR. OSCAR H. HOLDER.

There were three children in one family. The parents and grandparents had not been affected. The paternal grandfather had died at forty from consumption, and the grandmother was still living at fifty-seven. The maternal grandfather was

living at seventy-two, and the grandmother living at fifty-seven. The first child, a boy, was $9\frac{1}{2}$ years old. The prurigo began at the age of four. There was now lichenification of the hands. The second child, a boy, was unaffected. The third child, a girl of $7\frac{1}{2}$ years, had had prurigo since three years old. She was now at Randall's Island. A papule had been excised, and was exhibited under the microscope. The fourth child, Dominico, three years old, has beginning prurigo. The specimen under the microscope was interesting, for, it showed the hypertrophy of the arrector of the lanugo hair and the exudation around the vessels that are under the control of this muscle. The hypertrophy of the arrectors had been reported by Auspitz. The complete papule was in the series, but he could not find any evidence of changes in the epidermis as reported by Unna and others.

DR. MORROW said that these cases seemed to be good examples of prurigo, the lesions being especially pronounced in the older boy. The case of associated scalp disease was quite interesting, and he was surprised that the lesions had remained stationary for so long and had been benefited only by the iodides. He had never thought of using the iodides in this class of cases, and was at a loss to explain the mode rationale of their action.

DR. SHERWELL said that these cases seemed to be prurigo—he thought it might be better stated as a cutaneous manifestation occurring in strumous or scrofulous children. In three of the children the lesions were papular. The vesicular lesion he did not connect, except microscopically perhaps, with prurigo.

DR. FOX said that he had never thought of using iodide in prurigo, but if it does act, it does so just as it does in psoriasis, not on account of the iodine, but because of the alkali. Iodide of potassium would do no more good, however, than the acetate or citrate of potash.

DR. HOLDER said that the part benefited by the iodide had been the eczematous condition on the scalp, not the prurigo.

DR. FORDYCE said that he did not remember having seen before such a large family group of cases of prurigo. The specimen under the microscope was also very interesting.

DR. KLOTZ thought most of these cases in children a tendency to get well in this country. One girl whom he had presented to the society showed no trace of the disease after a few years. He agreed with Dr. Fordyce that the lesions on the head of the one boy seemed to be of eczematous nature.

DR. ALLEN said that he had seen such eczematous conditions in other cases in which he had felt convinced that the original trouble had been a trichophytosis, and in treating it with chrysarobin it had been cured. If the condition had been eczematous it should have been made worse by such treatment. It had struck him that the patches on the body might possibly be of the nature of ringworm, and he would suggest the treatment for ringworm in this case. Internal treatment for such cases was also called for to change the soil.

A Case of Eczema of Head, in Which Fungus Had Been Demonstrated.

—Presented by DR. HOLDER.

He said that the boy with eczema of the head had been on Randall's Island at least six months, and had been subjected to various modes of treatment for ringworm. Dr. Bulkley had first seen him and had prescribed a mixture of tar and zinc oxide. The head had improved for a while, then became worse and the next attending dermatologist had put the boy on iodide of potassium. He had become very much better under this treatment. The next physician had taken the

boy off the iodide and his condition had become much worse. The hairs were examined and the germ found. This case does not belong to the family having prurigo.

A Case of Extensive and Peculiar Scarring.—Presented by DR. P. A. MORROW.

The case showed an extraordinary amount of scarring from a serpiginous syphilide. The perfect preservation of the integument in very small isolated patches was interesting, as were also certain peculiar features about the cicatrices on the abdomen.

DR. BRONSON said that the case was a very curious one, and he could not understand the curious formation of the hypertrophied scars.

DR. ALLEN said that he had seen such pseudo-keloids flatten down. He had just been treating a girl with hereditary syphilis, who had had a most extensive ulceration of the face, and the scars had acted in just this way. To-day there was a linear pseudo-keloid seamed with vessels on either cheek. He had been operating upon her with electrolysis with very decided benefit. He expected that the keloid scars would eventually all disappear.

A Case of Morphea.—Presented by DR. S. SHERWELL.

The patient was a lady of twenty-four years, seen for the first time a few days before. The lesion occupied a small area on the left cheek, and presented a type in every way of morphea. It was so relatively infrequent that he had brought it merely as something of general interest.

DRS. ROBINSON and BRONSON thought the case a beautiful example of this very rare condition.

DR. FORDYCE asked for opinions regarding the relationship of morphea to localized atrophy of the skin. In some cases that he had seen there had not been any primary infiltration whatever.

DR. ALLEN referred to a young man whom he had shown two years ago, with a patch of morphea extending from one inch from the hair line down to the lips and chin. It had been treated by electrolysis and entirely cured.

DR. WHITEHOUSE spoke of an unusual case of morphea that had come under his observation during the past year. It was a symmetrical case involving the heels and extending forward two inches on the sole of the foot, and then in a band anteriorly about three inches in length on each side of the foot. The width of these lateral extensions was about three-quarters of an inch. It had been extremely painful at times. Recovery had occurred in about three months under the use of a 10 per cent. oleate of mercury spread upon lint and applied during the day.

DR. ALLEN said that in view of the possibility of friction and pressure operating as etiological factors, in this case he desired to refer to the young daughter of a physician, who had had patches on the legs, apparently caused by the pressure of the garter, and also on the outer side of the thigh from the friction and pressure of the buckle of suspensory garters. This patient had also been treated by electrolysis with benefit, but had left the city before a cure had been effected.

DR. SHERWELL said that he would advocate about the same treatment as had been suggested by Dr. Whitehouse, and he would expect to relieve it. He would probably give iodine and arsenic internally.

A Case of Leukoplasia —Presented by DR. J. M. WINFIELD.

The patient was an Irishman, forty-four years of age, who thinks he had a chancre when thirty years old. Two years ago a blister had appeared on the tongue, and had failed to heal. The tongue had become fissured and at present was covered with a thick membrane which extended to the roof of the mouth and cheek. It was apparently a case of leukoplasia of unusual extent. The patient experienced no special discomfort from it. He had indulged in alcoholic liquors a good deal at one time, and was still a smoker.

DR. KLOTZ remarked that he did not think this patient could be cured so long as he continued to smoke.

DR. FORDYCE suggested the adoption of Dr. Sherwell's treatment with the acid nitrate of mercury. The only objection to this treatment was the intense pain associated with it.

DR. SHERWELL said that he would certainly make use of this treatment, *sol.* acid nitrate mercury, although it was necessary to use much delicacy in its application. He referred to two cases that he had presented, which had been completely cured and had not relapsed, although both gentlemen continued to smoke. The application was certainly painful, but the pain steadily diminished from the time of the application. The latter should be made delicately, and its action promptly neutralized by the application of a mass of bicarbonate of sodium. The tongue should be held securely in forceps to prevent swallowing movement.

DR. MORROW said that he had always looked upon this disease as the result of the combined effect of syphilis and tobacco. He had had under observation for the last four or five months a gentleman from Havana who gave a history of having had syphilis many years ago. The left half of his tongue was covered with a perfectly white patch, though very much thicker than in the case under discussion. The inside of his cheek and also the lower lip were entirely covered. A part of his lip had been previously taken out by a surgeon in Havana on the supposition that it was an epitheliomatous process. Dr. Morrow said he had removed the greater portion of this patch on the left side of the tongue with the acid nitrate of mercury and curetting. He had used a sickle-shaped curette, and had found it convenient for lifting up the thick whitish coating. When this had been done the effect of the application had been more pronounced. He used cocain afterward to relieve the pain. For many years he had made it a rule after the application of the acid nitrate of mercury to apply a thick piece of blotting paper when the requisite cauterization had been produced. In this case after the left side of the tongue had nearly cleared up the right border had begun to show this faint whitish coloration, and within two months during which he was not under his observation it had developed on the other side, though the man had not smoked during this time. Whatever influence tobacco might have in the initiation of this morbid process it did not seem necessary for its further development.

DR. FOX said that he remembered one case in which there had been at least ten separate white disks on the tongue of a syphilitic subject. The trouble had yielded very promptly to ordinary antisyphilitic treatment. In other cases he had encountered great difficulty in curing them, and had seen the condition in persons apparently not syphilitic or even smokers.

DR. ALLEN said that while he believed that the vast majority of these patients were syphilitic and smokers, the disease was met with where these factors could be excluded. Most of these patients also give a history of having drunk alcohol rather freely. He now had a most remarkable example of this disease under his

care. There was a papillary growth reaching from the surface of the growth up into the vault of the mouth like a mass of white elongated papillæ springing from a fleshy base. He had given this man one week's treatment with iodide of potassium, and the tongue had seemed somewhat better. He had then instituted treatment with the acid nitrate of mercury, and the mass at present was more than half reduced in size. He had not found that the pain from the application began at once, but rather half an hour or more after the application, and increased in intensity unless cocain is kept in the mouth. The remedy also gave rise to a good deal of pytalism.

DR. WINFIELD said that the man gave no positive history of syphilis, and he was not a hard drinker, but he did smoke to excess. He would be disposed to use the acid nitrate of mercury very lightly for fear of causing undue swelling as the patch extended far back at the base of the tongue. He agreed with Dr. Allen that the pain of the application did not begin at once.

DR. DANIEL LEWIS said that in two cases he had obtained good results from the use of beechwood creosote. One case was that of an old man with a possible syphilitic history; the other was that of a young woman without a history of syphilis. Each case had recovered satisfactorily from this local application. It was free from the objections applicable to the acid nitrate of mercury.

A Case of Acute Pityriasis Rosea.—Presented by DR. C. W. ALLEN.

He said that it had been contended that therapy was practically useless in these cases, as patients recover spontaneously in a few weeks without treatment. The case was presented to illustrate the beneficial effects of treatment. The cutaneous manifestation had been very marked, and had extended all over the body. It had been treated with sulphur with very decided benefit. Contrary to the usual rule, there had been intense pruritus. The sulphur had relieved this symptom almost immediately, and he desired to emphasize this point.

A Case presented by DR. J. A. FORDYCE for diagnosis.

The patient was a young man, a bartender by occupation. He stated that last winter he had had a painful and fissured dermatitis of the back of the hand. Lately it had been developing into a warty condition. At present the condition resembled somewhat tuberculosis verrucosa cutis.

DR. MORROW said that from a superficial examination he was disposed to agree with the tentative diagnosis given.

DR. SHERWELL concurred in the diagnosis.

DR. FOX said that there was an eczematous surface, and that beads of serum could be seen. It looked like a case of chronic eczema.

DR. KLOTZ was also inclined to look upon the case as an eczema, aggravated, perhaps, by mechanical irritation, which might account for the presence of scar tissue.

DR. DADE thought if the case were one of tuberculosis the patch would not have grown so rapidly.

DR. BRONSON said he thought Dr. Klotz's modification of Pick's plaster should be beneficial here, although he would prefer personally 5 per cent. salicylic acid and 10 per cent. ichthyol application.

DR. ROBINSON said that if it were not for this scar formation he would be willing to make a diagnosis of eczema.

A Case of Lupus Erythematosus of the Cheeks.—Presented by DR. HOLDER.

The patient was a man of forty-nine years, born in Bohemia, who gave a good

family history. He stated that he had always been well until four years ago, when the trouble on the cheeks had commenced. Two years later he had had the grip, and a cough continually since that time. Dr. Theodore Janeway had carefully examined the chest, but had found signs of chronic bronchitis without emphysema, but no evidence of tuberculous lesions. The lesions consist of two patches on the left cheek and one on the right. The right auricle is also slightly involved.

A Case of Lichen Planus Exuberans with Unusual Distribution.—Presented by DR. A. A. ROBINSON.

DR. ROBINSON said that he would be disposed to treat a few of the patches with liquor potassæ, and see what would be the effect.

DR. SHERWELL said that in a case of this kind with tumor formations the local treatment should be quite vigorous—*e.g.* salicylic acid and curetting.

DR. KLOTZ said that since surgical procedures had been mentioned he wished to call attention to the fact that recently Schultz, of Frankfort-on-Main, had practised and recommended the excision of old verrucous patches, particularly on the lower legs. Similar results, as by scraping and curetting, would also be obtained by application of caustic potash in the form of the liquor potassæ, by which the accumulated horny epithelial masses would gradually be removed. It might be advisable to begin with diluted solutions to avoid too much irritation.

THE VENEREAL AND DERMATOLOGICAL SOCIETY OF MOSCOW.

VOL. IX., 1899-1900.

The cases presented before the society are usually accompanied with a full history of the disease, with histo-pathological sections of the affected skin. The authors not only give a detailed description of the present eruption, but enter into a thorough clinical review of the literature of the subject, consider the differential diagnosis in each case, evoking a very interesting discussion.

Outside of the cases given below in fuller details, there were presented: One case of epithelioma of the hand developed upon a lupus (Jordan), case of simple diffuse and scleroma *en bandes* with atrophie cutis propria (Metcherski), two cases of tuberculosis of the skin, (Tchlenov), case of melanosarcoma multiplex (Mescherski), case of ichthyosis nigricans (Zabolotski), one case of granuloma sarcomatodes cutis multiplex hemorrhagicum (Cholin), three cases of lepra, one case of elephantiasis combined with carcinoma mammae (Vysotzki), and Dr. Orlov gave an account of bacteriological findings in prostitutes suffering with gonorrhea. Dr. Kedvovski presented cultures of lepra bacillus.

Prof. Pospelov as usual is the soul of the society, animating the discussion and giving a true scientific impulse to the work of the members.

POSEPELOV, A. T.—The skin of the patient's face turned dark after applying mercuric-nitrate "for freckles." The whole face was covered with black heads, in the follicular openings. Microscopically sulphide of mercury which was produced under the influence of H_2S excreted by the skin, was demonstrated in the follicles. The black points were removed by means of a 12 per cent. resorcin paste, which dislodged the epidermis, carrying away simultaneously the comedones.

Second Case. Pityriasis rubra Hebrae in a man. Neither family nor personal history regarding it or carcinoma. Eighteen years ago the patient fell into water and was obliged to travel home without change of clothes. High fever developed, which several days later was followed by red spots upon his abdomen. Those spots did not disappear, but gradually increased in size. Gradually the sides and other portions of the body have been involved. The forearms and arms were attacked last. The spots are scaly.

He does not complain of any ailment, only he feels he is growing weaker. Pospelow relates a case of pityriasis rubra in which the autopsy revealed cancer of the stomach.

KRASNOV, L. M.—I. Changes of skin in syringomyelia.

2. Elephantiasis verrucosa treated with calomel. It is the fourth case treated with calomel injections by the author. All the cases left the hospital with a pronounced favorable change. The present patient is a man of twenty-three years of age, suffering with elephantiasis for about two years. He denies syphilis. Out side of the typical picture of elephantiasis there are verrucae of various sizes and forms. They are arranged in patches which are separated by deep folds. The skin of the middle portion of the crust is covered with a crusty eczema.

General health in good condition. During a period of six weeks the patient received six calomel injections, 0.05 grn. calomel in each injection.

In this short period the improvement was very satisfactory. The circumference of the foot diminished $5\frac{1}{2}$ ctm., the circumference of the arm 1 ctm. The consistency of the affected limb became softer, eczema disappeared, the folds are hardly noticeable; the verrucae in some places disappeared entirely, in other places are hardly seen.

RACHT, S. TH.—I. Case of pityriasis rubra pilaris or lichen ruber acuminatus.

In a twenty-year-old man. The interest of this case lies in the fact that while in the time of presentation of the case it was accepted by the members as a case of Pit. rub. pilaris, the same patient several months previously consulted the author for an eruption which was a classical lichen ruber acuminatus moniliformis. This lichen disappeared after administration of arsenic, leaving pigmented spots and a few lichen-papules on the periphery, which in time developed and increased in number forming the present disease.

Book Reviews.

Year Book of Medicine and Surgery. Edited by GEORGE M. GOULD, M.D., Philadelphia: W. B. Saunders & Co., 1901. Cloth, \$3.00 net per volume.

The two-volume edition has been continued this year, as the convenience in handling has met with much approval. The work is in the same hands as the last edition, except that Dr. A. O. J. Kelly has been added to the pathological staff. There seems to be less illustration than in previous years, but unless it is done in the best, which is also the most expensive style, it is more than useless. Saunders & Co. are quite right to limit it, for many of the half-tones and the colored

plates presented are done on highly finished paper as inserts. The selection of illustration seems anything but judicious. Why should we be inflicted with a double insert covered over with cancer "parasites" which exist chiefly in the investigator's mind? The price of these volumes shows what can be done for little money and what an imposition it is to charge five or six dollars for volumes far less useful. In the Year One of the Millenium, perhaps, the profession will refuse its rôle of victim, and great will be the fall of a publishing house or two which shall be nameless.

Another question obtrudes itself on the reviewer's mental vision: How much of the work was done by, and in consequence how much of the credit should accrue to, the man whose name goes first in dual authorship? It is commonly held that any one can do abstract work (there was never a greater mistake) but, even so, is it fair for the great name to obscure the lesser one, and moreover, is it likely that a man first in his line would undertake this form of labor? The work is undeniably well done. The genito-urinary diseases form a part of the general surgery section, the review is adequate and the selections worthy. In the first volume, "Medicine," cutaneous medicine and pathology are quite as well done as regards the abstracts themselves, but when the reading is finished, it seems that more good work was accomplished than here appears. Syphilis has at last been placed with some idea of its proper importance. In this respect, Gould's book is easily first. There are the usual omissions from the index (*e.g.*, hemachromatosis) and the more than usual repetition (Oertel's pseudoleucemia cutis). It is hard to see how the latter error occurs.

Selections.

A Peculiar Progressive Pigmentary Disease of the Skin—JAY F. SCHAMBERG (*The British Journal of Derm.*, vol. 13, Jan., 1901).

A robust lad of fifteen has patches upon the wrists and legs, extending upwards beyond the knees and downwards, involving the ankles and feet. The disease began as pin-head reddish puncta or dots, forming irregular patches which slowly extend by the formation of new puncta upon the periphery. The puncta in the course of time disappear, leaving behind a brownish, brownish-yellow or reddish-brown pigmentation, which slowly fades, or may remain unchanged for several years. The disease involves distant areas of the integument. It is progressing. Spontaneous involution occurs in the oldest areas, tending to a complete restoration to the normal condition of the skin. No subjective symptoms are present.

Under the microscope the picture is that of a sub-acute inflammatory disease. The pathological process has its chief seat in the sub-papillary layer of the corium and with most intensity in the immediate neighborhood of a sweat duct. According to the writer, no record of a similar disease could be found in dermatological literature.

"Floaters" in the Urine.—By W. F. BERNART, M.D. (*N. Y. Medical Journal*, July 14, 1900, p. 58).

The writer mentions the necessity of a more thorough understanding of the

diagnostic value of "floaters" in the urine voided in cases of urethral inflammation or lesions of the adnascent tissues. The name "floaters" is adapted for want of a name that is more appropriate than the usual names—clap shreds, comma shreds, Fürbinger's hooks, Tripperfaden, urethral filaments, etc.

A series of experiments was tried, in order to study the peculiarities exhibited by these "floaters" as seen in the freshly voided urine after standing some time; the results of fifty such experiments prompt the following conclusions:

1. The specific gravity of the urine is a prominent factor in the action of floaters.
2. The elements comprising the floaters influence their action.
3. Their suspension at different depths in the urine is greatly due to some mechanical interference.
4. Upon filtration of the urine all but the very lightest floaters, those composed of flocculent mucus, will sink to the bottom of the beaker.
5. The action of floaters does not alone depend upon their composition or the specific gravity of the urine.
6. Since the difference in the length of the infection and its extent, and the influence of treatment did not show a marked degree of difference in the results of the foregoing experiment, it is but fair to judge that some substance within the urine, which can be removed by filtration, influences the action of floaters and their diagnostic value.

A. L. W.

Two Unique Rectal Cases.—By SAMUEL G. GANT, M.D. (*N. Y. Med'l Journal*, July 14, 1900, p. 59).

1. *Chronic Diarrhea Due to Rectal Ulceration.*—The patient, a female, had suffered from frequent stools and tenesmus for five years, during which period every possible nostrum and medicine had been used without improvement. On examination three ulcers were found on the posterior rectal wall, varying in size from a dime to a quarter, the lowest being only three-quarters of an inch above the anus. The sphincter was hypertrophied and contracted tightly, and the mucous membrane throughout highly inflamed. The sphincters were divulsed under general anesthesia, and the denuded surface brushed over with a silver nitrate solution, thirty grains to the ounce. Rest in bed, daily rectal irrigation with antiseptic and stimulating remedies, and a light diet, followed the operation. In six weeks the ulcers were headed and the patient discharged cured. She has been well since.

2. *Stricture of the Rectum Caused by Stone in the Bladder.*—Male, twenty-four years old, had suffered from constipation and diarrhea three years; recently had passed much pus, blood and mucus; much straining was required to expel the feces, though occasionally they passed easily. Recently all the urine had been voided through the rectum, causing smarting pain and inflammation of the skin about the anus. Pain was present in the bladder region. A thick white sediment formed in the urine on standing; composed principally of pus; and on one occasion he had complete retention for twenty-four hours.

There was an almost complete stricture in the rectum. The bowel was ulcerated at this point and acutely inflamed everywhere, as a result of the dribbling urine. The caliber of the bowel was obstructed by a hard, oval, movable mass about the size of a hen's egg. A sound was introduced into the bladder and the diagnosis of stone was thereby confirmed.

Perineal lithotomy was performed after some difficulty; the stone weighed

four and a half ounces. The urine passed through the perineal wound for a year after the operation, after which period the wound closed. A bougie was passed through the strictured rectum bi-weekly. The patient was kept under observation for two years, and during the latter ten months of this time was perfectly well.

A. L. W.

Report of a Case of Hematuria Due to Renal Carcinoma.—By FREDERIC BIERHOFF, M.D. (*N. Y. Med'l Journal*, May 26, p. 805).

The patient was a female, fifty, nullipara. Had an attack of hematuria which lasted four weeks. There was a sudden, painful desire to urinate, followed by the discharge of bloody urine or of clear blood. The tenesmus was continuous at times, and at night micturition was necessitated at half-hour intervals. For four months there was a period of rest, during which the urine remained clear. Then came a second attack, also lasting four weeks, followed by another period of clear urine for three months, which was followed by a third attack which lasted three days. Since the last attack (August, 1899), the urine has seldom been normal, and since January (1900), the pains and bleeding have increased in severity. Vesical irrigations were without any benefit.

Cystoscopic examination was performed with the patient in the condition of collapse, owing to the profound anemia. The catheter removed about fifty cubic centimeters of pure, dark-red blood, which clotted on standing, in the characteristic manner. Several large irregular clots, evidently formed in the bladder, were discharged, as also several long, thin, round, stringy clots, whose shape suggested a ureteral origin.

No changes in the vesical mucosa were visible. The right ureteral orifice was occluded by a blood clot which protruded into the bladder for about a centimeter. Left ureter was normal and was seen discharging clear urine actively. A diagnosis of right unilateral hematuria of renal origin, probably due to renal tumor, was made.

Nephrectomy was performed some time later, after a course of active stimulation. The kidney was carcinomatous, and was removed with as much of the ureter as could be removed. Since the operation the urine has been clear, but contains a slight trace of albumin.

A. L. W.

Treatment of Anal Chancroids.—By M. A. H. THELBERG, M.D. (*N. Y. Medical Journal*, May 26, 1900, p. 822).

The writer reports the results in eleven cases of anal chancroids treated by heroic cauterization under general anesthesia, followed by the application of orthoform. The ulcers are thoroughly cauterized with the Paquelin cautery, and orthoform is then rubbed into the wound with the finger. A good-sized rubber drainage tube wound about with iodoform gauze, which in turn is dusted with orthoform, is inserted and kept in place with a safety-pin, after which a gauze dressing and a T bandage are applied. The bowels are controlled for three days, when an enema of four ounces of castor oil and olive oil in equal parts is given after a liberal dose of magnesium sulphate. When the catharsis has subsided, a cleansing enema is given and a ten per cent. orthoform suppository administered. In some of the cases the free edges of the mucous membrane were, after cauterization, brought together by a couple of fine chromicized catgut sutures.

The results in all these cases were exceedingly satisfactory.

A. L. W.

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Original Communications.

ANNULAR LICHEN PLANUS; THE REPORT OF A CASE OF THE "RING-FORMED PAPULE," WITH ITS HISTO- PATHOLOGY.¹

BY MARTIN F. ENGMAN, M.D.,
St. Louis.

THE report of this case has been incited by reading Dr. Crocker's most excellent dissertation upon "Lichen Planus: Its Variations, Relations and Imitations," which appeared in *The British Journal of Dermatology*, of December, 1900. In this paper, and in the discussion² which followed it, annular lichen planus occupied a rather prominent position. In speaking of this form, Dr. Crocker remarks: "Most interesting, because less common, is the formation of circles, lichen planus annularis. The rings are of small size, $\frac{1}{4}$ to $\frac{3}{4}$ of an inch in diameter, seldom larger, while they are few in number, as a rule the bulk of the eruption being of the usual type. In some cases they are very numerous. As to their mode of development: In a case shown by Cavafy, to the society, he stated 'that they appear to be developed in two ways'—by confluence of small papular lesions, of originally circinate arrangement; and, secondly, by gradual peripheral extension of large, flat papules, equally at all points of their circumference, accompanied by involution of their central portion. As to the first mode of formation, I can confirm Dr. Cavafy's observation, but not as to the second, and I should like to hear the experience of

²By the members of the Dermatological Society of London. ¹Read before William Dermatological Club, St. Louis.

other members of the society on this point, as it is quite different to what we see in the enlargement of plaques. Cavafy adds that primary circles obtain on the trunk, and the secondary ones on the limbs, which would bring it into correspondence with psoriasis gyrata."

In the discussion of Dr. Crocker's paper, D. H. G. Brooke, of Manchester, says: "In the diffuse forms we have a development of lesions from a center or around the sweat duct; in the circinate form we have lesions which spread quickly from a center—and here again I would join issue with Dr. Crocker—because I think I have distinctly seen a lesion spread with a thin edge from one enlarged papule, and not simply brought about by a conglomeration of papules."

On the contrary, Dr. Pringle, after citing three cases of annular lichen planus, asserts that these cases "were formed by the papules rising in circles; certainly not by peripheral extension of the papules." Dr. Colcott Fox also adds to this discussion by saying: "When rings are seen they are almost invariably due to the ringed grouping of a number of papules. I have always regarded the case which Dr. Cavafy showed as a test case. I was at that time, and I had been for years, trying to make out whether the individual papules spread into rings. I cross-examined Cavafy, who said that he had studied that particular case most minutely, and he was quite clear that of the individual papules of that case some did spread in that manner."

I quote thus fully from this interesting paper, and its discussion, to show the difference of opinions and the uncertainty which exists upon this subject in England, the home, we might say, of lichen planus, where we expect to obtain the most definite knowledge of this disease. Therefore, from the remarks of these gentlemen I infer that ringed forms of lichen planus are rare, and that possibly all of these forms are considered as belonging to Cavafy's first class, while his second class, where the ring is formed by the peripheral extension and central involution of an individual papule, is doubted by a large number of observers. Anyway sufficient evidence has not been advanced to definitely establish this fact. My experience of nine years in dermatological clinics and hospitals in this country and in Europe is limited to the following case of annular lichen planus, which came under my notice some two years ago, but fortunately I was able to study this case rather thoroughly, both clinically and histologically. This paper is largely produced from my notes taken at the time, and from sections cut and stained then and subsequently. The case was under observation long enough to convince me of the development of rings from individual papules, but not long enough to experiment with it as I would have liked. It is also to be regretted that a suitable photograph

of the patient was not obtained. I will here also mention that a positive diagnosis of lichen planus was made by Dr. William A. Hardaway, who kindly saw the case with me, and by myself.

L. A., sixty-six years old, Canadian; occupation, ship carpenter. He was a short, stockily built, well-preserved active man. His family history was good and he had enjoyed excellent health until the appearance of his present trouble, which had caused no other symptoms except the annoyance from the constant itching. Physical examination elicited nothing abnormal. Urine virtually normal. The skin trouble began seven months previously as "red, itchy pimples," on the left wrist, which remained localized there for a month or so, when the eruption appeared symmetrically distributed over the legs and thighs. At that time the patient thought the eruption due to "bedbug bites." After the involvement of the thighs and legs it had been gradually extending to its present condition, but in the last two weeks had markedly increased. It may be remarked here that the patient perspires excessively. During the various consultations he perspired very freely, though the weather was quite cool.

The eruption was irregularly symmetrically distributed over the forearms, both flexor and extensor surfaces, the legs, thighs, back, abdomen, scrotum and penis. It consisted of (1) plane papules; (2) plaques, as usually seen, made up of these papules; (3) small rings from an eighth of an inch to an inch and a quarter in diameter; (4) large rings, 2 to 4 inches in diameter; (5) gyrate, psoriasis-like areas, formed by the coalescence of large rings or patches, which are undergoing some central involution, with a peripherally extending border; (6) peculiar pellicle lesions.

On account of the several unique features of this case, I believe it will be better to describe them separately.

1. *The Plane Papule*.—This did not essentially differ from the typical angular plane papule of lichen planus, being of a light to livid reddish tint, angular in outline, with a burnish in a certain light. No horny pearls or concretions could be seen in any of these lesions, but some of them presented slight umbilication, especially upon the wrists. This umbilication could not be differentiated without watching, for a day or so, from the very first step of ring formation. These papules did not have the firmness or resistance to the touch usually felt in the ordinary papule. They ranged in size from that of a small seed to $\frac{3}{8}$ of an inch in diameter, generally reaching the latter size before undergoing involution. The plane papule was principally situated upon the wrists, forearms (flexor sides), penis, and sides and front of abdomen. Probably the majority of these took the usual

course of involution—plaque formation and involution, leaving pigment spots—the unusual process or final stage being the formation of the “small rings” and “pellicle-like lesions.”

2. *The Plaques.*—These were formed, as they usually are, by the union of the individual papules. Here and there, on the fore arms and legs, typical plaques could be seen; the borders angular, a few outlying lesions, infiltrated, the color of a reddish, violaceous tint, the surface slightly scaly. But this usual patch formation was not characteristic of this case, for when patches were formed certain changes occurred in them to form the “large rings.”

3. *The Small Rings.*—These rings ranged in size from $\frac{1}{8}$ to $1\frac{1}{4}$ inches in diameter. They were formed from the plane papule, by the latter seeming to take on a more active process, which always occurred in the early life of the lesion; not when it had attained its full growth, as it were, but in the smaller papules, in every case, and not by the sinking or involution of the center of the large, flat lesions.

The development of these rings I had watched from time to time on marked papules, and, as the patient was an intelligent man, he greatly assisted me. A lesion from $\frac{1}{8}$ to $\frac{1}{4}$ inch in diameter, angular in outline, of a *pinkish-red* color, with a glazed burnish in a reflected light, would become umbilicated or sunken in the center, while the periphery or border lost its angles, and seemed to quicken into an active, progressive mood. The umbilication became a little, flat, sunken place, surrounded by an elevated, red burnished ridge, the latter perfectly convex on top, and generally about $\frac{1}{16}$ of an inch or so in thickness. In certain lights this rim looked as if it contained serum, from its high burnish and stretched appearance of the epidermis. Thus the ring increased in diameter by the concentric extension of the elevated ridge and the rapid involution of the center.

When these rings attain, say, $\frac{1}{2}$ inch in diameter, the center or involuting portion becomes less inflammatory in color and more pigmented; this part of the larger of these circles is almost of a *café au lait* tint.

The *small ring* formation is a very transient and superficial process, to the touch conveying the impression of comparatively slight infiltration. They were situated upon the forearm (mostly flexor sides), back, abdomen, penis and scrotum. Nowhere did they coalesce to form gyrate figures, being discrete, isolated, with plenty of intervening healthy skin. The evolution continued until the circles became a certain size, never larger than $1\frac{1}{2}$ inches in diameter, when involution occurred. Frequently the raised borders at this stage became

shriveled and pellicle-like (to be described later), leaving the usual lichen pigmentation.

4. *The Large Rings.*—Quite a number of the plaques made an attempt at ring formation, by the usual central involution. These plaques may be considered as individualized papules, and the same remark applied to them, in a way; that is, they awakened into an active mood, the border extending, *en masse*, as it were, with annular, gyrate or escolloped outlines; but the central portion did not become as completely involuted as that of the small rings; therefore, it remained thickened, reddened, burnished and slightly scaly, while the peripheral border, consequently, was but slightly raised above the center, though of a lighter, more inflammatory color, flattened on top, $\frac{1}{4}$ of an inch in breadth and of a high burnish. Outlying lesions were rare. The larger circles were scattered over the extensor sides of the forearms, legs and thighs. On the legs they extended more rapidly in certain directions than in others, and by convergence with adjoining circles formed gyrate areas. On the legs they were also more of a livid hue, more thickened and from the gyrate appearance of the patches and their glazed, yet scaly appearance, reminded one strongly of a psoriasis which had been treated with strong reducing agents and soap baths.

On the forearms the center underwent more complete involution, and the whole process here was more active. None of these rings in this region coalesced. Near the left elbow there was a ring, probably 2 inches in diameter, the center rather deeply pigmented, upon which had developed two flat angular papules (probably the reawakening of the seeds of the old process), while there was irregularly arranged about the border similar flat papules, giving to the whole patch an appearance something like Hebra's "branch set with pearls."

5. *Gyrate Areas.*—As I have just remarked, these areas were formed by the extension and union of the large rings on the legs, and had a psoriasis-like appearance.

6. *Pellicle-like Lesions.*—This is to me the most interesting and unique feature of the case, and I should like to know if others have observed a similar condition. I believe though this type of lesion gives us to a certain extent the key to the peculiarity of the case, namely, the *instability of the new formation in the cutis*.

Upon the forearms of the patient, especially upon the flexor sides of the wrists, and here and there upon the abdomen I noticed several peculiar lesions having the appearance of small, flabby bullæ, in which the fluid had escaped or become absorbed, leaving a shrivelled, milky-white pellicle. That was the exact appearance of these lesions; but

upon rupture and removal of the epithelium, both it and the surface from which it was removed proved to be perfectly dry. Then my attention was attracted by the shrivelled appearance of the rims of some of the small rings, which I concluded was the same process. After carefully watching and studying these lesions I became convinced that they were not vesicular, and that the condition began by a gradual puckering of the epidermis over the diseased cutis; that this epidermis become secondarily involved, as is always the case in this inflammatory condition (edema, hyperkeratosis, acanthosis), but did not undergo involution as rapidly as the underlying cutis; thus, the diseased cutis having almost regained its normal condition, became too small, as it were, for the non-involuted, superimposed epidermis. These lesions were, therefore, papules and small rings having undergone a rapid and unique involution.

Histopathology of the Lesions.—A small ring and a plane papule were excised from the forearms; also, a piece from the edge of a large ring or psoraisis-like lesion upon the leg. The patient refused to be again cut; therefore, we unfortunately lost a pellicle-like lesion.

These pieces were fixed and hardened in alcohol, embedded in celloidine, cut, and stained by various methods. It is unnecessary here to dwell upon the general microscopic anatomy of lichen planus, a disease as characteristic and distinct, anatomically, as it is clinically; the sharp, papillary infiltration, composed of connective tissue and lymphoid cells; subsequent epidermic edema, hyperkeratosis, acanthosis; changes in interpapillary rete pegs; absence of plasma cells, giant cells and the presence of only a few leucocytes. All of these features were well shown in each excised lesion, thus positively establishing the diagnosis of lichen planus.

Although the microscopic picture from these sections may be thus concisely described, yet they present sufficient unique and interesting features to permit, I believe, a more detailed description.

The Plane Papule.—The papule is composed of a circumscribed thickening of the epidermis, with a dense cellular infiltration under it, in the papillary portion of the cutis. The thickening or increase in depth of the epidermis is produced by two factors, namely, edema and a mild acanthosis. The edema is both parenchymatous and intercellular; the intercellular canals are dilated, in some places markedly so, but the parenchymatous edema adds most materially to this increase in thickness. The cells are enormously swollen, while the nuclei of a large number of them float in widely dilated nuclear cavities, the nuclear chromatin having undergone various forms of clumping and degeneration, producing grotesque and bizarre figures.

In two sections places are seen where two or three adjoining cells have degenerated, leaving little vesicular cavities.

This catarrhal condition is not sufficient to cause a typical parakeratosis, for the horny layer is thick and firm, with no evidence of retained nuclei; but there is just enough moisture, possibly, to produce hyperkeratotic horny cells. This hyperkeratosis again assists in the epidermic thickening by its resistance, pressure, and by causing the retention of the moisture within that structure.

As we reach the sections from the center of the papule, this hyperkeratotic horny layer is found as a firm, oval, horny mass, which is slightly raised above the surface, and also pushes down quite deep into the spongy cells underneath it. If this was removed while the papule was *in situ*, it would give the lesion a distinct umbilication. As the thickness of this horny concretion increases and it grows older, it undoubtedly becomes cracked and loosened, and is easily detachable, for in this young papule even now little cracks at the base and sides can be just made out.*

The granular layer is, of course, deepened, especially under the horny plug, the granules being very large and staining faintly. Numerous mitoses appear throughout the sections, but they are not as numerous as is seen in some other catarrhal conditions.

A few leucocytes, though very few, are seen in the epidermis; most of the foreign cells, I believe, have been washed there by the afflux of serum, because I know of no other way to explain the presence here of new connective tissue cells and lymphoid cells. These cells are most abundant near the cutis margin, lying generally in the lymph spaces, with quite a number scattered about almost to the granular layer, the latter position being, no doubt, attained by the pushing up of the ever-increasing epidermic cells. Now and then a pigmented connective tissue cell is found here; the ameboid nature of this cell has not been decided, but its shape and appearance in the cutis inclines me to the opinion that they are ameboid.

There is no increase of pigment in the epidermic cells themselves at this stage of the process, but it forms later, as it does in the cutis during involution.

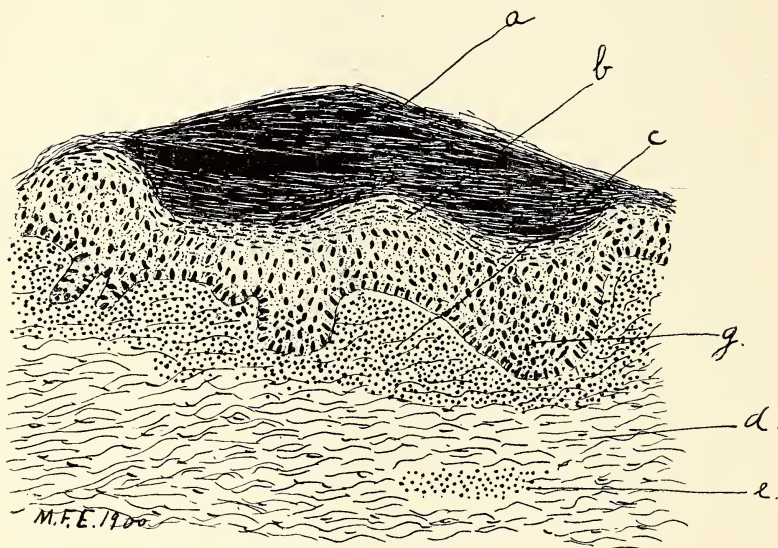
The dense infiltration in the cutis, lying between the horizontal plexus of vessels and the epidermis, is composed of new connective tissue cells (epithelioid and fibroblasts), lymphoid cells, a few leucocytes (very few), and mast cells. No plasma cells could be demonstrated. This cutis inflammation can best be studied by beginning

* These were hardly produced by manipulation, as they were too small and regular.

some distance from the papule proper, for the process does not stop abruptly at the margin of the papule, but shades off into a formation of new cells about the vessels, and slight increase between the vessels and epidermic margin, with now and then a small circumscribed denser collection—the birth of a new papule. The increase of connective tissue cells furnishes most of the infiltration, which is soon re-enforced by the addition of lymphoid cells.

As we reach the papule margin the cell increase becomes a dense

FIG. 1.



a.—Hyperperatotic horny mass.

b.—Thickened granular layer.

c.—Lichen infiltration.

d.—Cutis.

e.—Vessel.

g.—Foreign cells in epidermis and an acanthotic wedge of epidermis. Section from near center of plane papule.

infiltration of these cells, with a few leucocytes and mast cells about the edge. Although the height of the process is between the horizontal vessels and the epidermis, yet as it progresses the deeper vessels show more cells than normal about them, with a swelling of their outer coats, while the lymphoid areas are very prominent throughout the cutis.

The lymph spaces, vessels, and especially the veins, are dilated, while the walls of the arterioles are thickened. The dense infiltration has almost obliterated by pressure and its own increase the interpapil-

lary process, though the swollen and acanthotic epidermis pushes in here and there where the resistance is not so great, as large bulbous processes, always in the direction of the papule margin.

In the sections from the center and near it, hyaline degeneration has already attacked the collagenous tissue, also some of the capillaries, their forms being almost indistinguishable, glistening and stiff.

All through the infiltration area pigment cells are formed from connective tissue cells. They are only occasionally seen "about the vessels," and have no relation whatever to them. I can assert from my studies of pigment cells in lichen planus that they are formed from connective tissue cells, and probably become ameboid. The pigment seems to be derived from the protoplasm of the cell, the nucleus retaining its shape and tinctorial reaction, although not staining so deeply, until pushed aside and almost obscured by the ever-increasing pigment. The pigment is of a yellow, orange or golden color, consisting of round or irregularly shaped small and larger granules, which do not react to the iron tests, and are unaffected by staining reagents. The formation begins about the outer portion of the cell, generally as lines or strings of granules, these increasing from without inward, until the nucleus is obscured or pushed to one side, with a change then in its tinctorial qualities and also that of the cell protoplasm, the latter staining often a light pinkish hue with polychrome methylene blue. Again, the granules may form at one end of the cell, while the tinctorial change can be observed in the other portion.

Various stages of this process can be seen, from a cell with a few granules to one enormously swollen with them, looking like a bladder filled with small stones. (Fig. 2.) Also, free granules are scattered in an irregular manner here and there in the section in the interfascicular spaces, particularly in the sections from the small rings.

The connective tissue cells also undergo peculiar achromatin degeneration, best studied with polychrome methylene blue. Some of these cells contain certain dark-blue granules, with normal nucleus, while in others the nucleus is broken up, the cell protoplasm staining faintly, and is dotted with deeply stained granules of nuclear chromatin. In a good light the pigment is of a golden-yellow color, but in polychrome secretions a cell can now and then be seen with a mixture of dark-blue and golden-yellow granules.

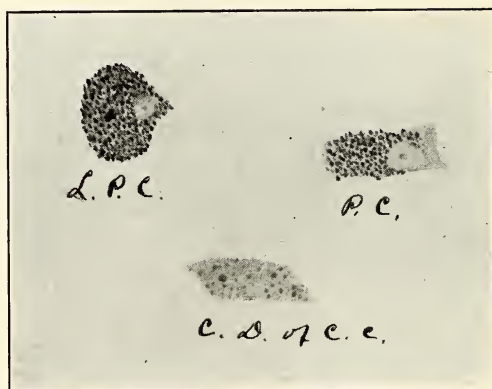
The epidermic changes follow closely always those in the cutis, which can be prettily studied by observing both as the papule is gradually approached, especially the little nests of cells near it. First, the infiltration about the vessels, with increase of cells in the pars papillaris, and just under it; then the dilatation of the lower lymph spaces

in the epidermis joining the cutis, followed by parenchymatous epidermic edema, acanthosis, hyperkeratosis; increase of all these different processes, with the papule as the result.

Colloid degeneration was limited to only a few cells in the epidermis in two sections from the center of the papule. (See Fig. 1.)

The Small Ring (the ring-formed, substantial papule of Unna).—This is best divided for study into two portions, the center and periphery. In cross sections the two peripheral ends are seen to be composed of moderately thickened epidermis, with typical lichen infiltration under it, forming the rim of the ring, while the center bears the marks of the inflammatory process which has lately swept across it. In comparing

FIG. 2.



L. P. C.—Large pigmented connective tissue cell.

P. C.—Smaller connective tissue cell undergoing pigment degeneration.

C. D. of C. C.—Chromatin degeneration (nucleus) of connective tissue cell.

these sections with those of the plane papule of this case, we can readily see that the ring papule is a more transitory and mild process; in fact, all the lesions of the case are histologically less severe than those usually seen in lichen planus.

The lichen infiltration at the periphery consists of the same kinds of cells as that of the plane papule; the steps of the peripheral progression being similar to those described upon approaching the papule, with the exception that the infiltration is not so dense at any point; it shades off more gradually into the healthy tissue, and does not present the attempt at new papule formation, near the periphery, which is seen in the sections from the papule and psoriasis-like patch, as small, denser areas or points of cell increase.

Degenerative processes soon attack the collagenous tissue and infil-

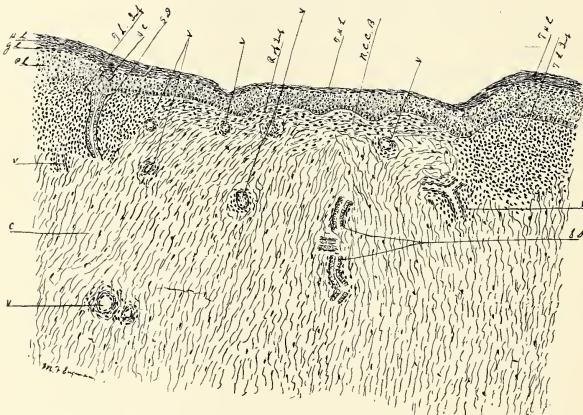
tration cells, the results of which must be carried rapidly away, for only slight traces of the *débris* are evident. Quite a marked difference can be distinguished between the progressive, or the most peripheral, portion of the periphery proper, and the retrogressive portion just within it; the latter having a hyaline, glassy appearance, staining irregularly, the cells here and there undergoing various chromatin, protoplasmic and tinctorial changes, while the former, or outer zone possesses its usual outlines and staining qualities. This involvement of the periphery by degenerative changes is not a gradual one, as one would suppose, but is abrupt, the two features, progressive and retrogressive, being side by side, a sharp and distinct line between them, which can probably be explained, I believe, by a nutritional change due in turn to a primary involvement of the horizontal vessel or capillary twig supplying the retrogressive part; but the lack of the sufficient and proper staining, in the first place, prevents my confirming this. As we move the field nearer the center of the section, just within the aforesaid retrogressive area, we find this degeneration more advanced, many of the capillaries having lost their staining qualities, homogenized; the walls of the vessels thickened and hyaline. The lymph spaces are widely dilated, and some granular detritus is found through this part. Pigment cells abound here with various forms of cell degeneration. Still further centerward the details of the picture again change rather abruptly, and we see a regenerative process which increases until we reach the exact center of the section. I say this is regenerative, as the new connective tissue cells are arranged in a parallel manner, their long diameters being more or less parallel to the epidermis, especially so just under it; the collagenous tissue is again wavy, and has lost its hyaline appearance. The vessels are the last to regain their normal appearance, for none of them have yet fully recovered. Some small new vessels appear near the cutis margin. The lymphoid cells have nearly disappeared from this central portion; also, the characteristic appearance of lichen infiltration, though a marked cell increase can be seen, yet it proves to be new connective tissue cells, running in a regular organized order or in bundles, except about the vessels, where these cells are more heterogeneously arranged, with a few lymphoid cells; but even here they are beginning to form in regular order.

Pigment cells abound all through this portion, being far more numerous than in other parts of this section. They are scattered mostly through the upper part of the cutis; also, to a lesser extent, quite deep. Free pigment granules of the same character are scattered in a rosary form through some of the interfascicular lymph spaces.

Deeper down in the cutis, as far as the section extends (slightly below the coils), quite marked cell increase about the vessels is seen, composed of connective tissue cells and a few lymphoid cells.

The epidermis keeps pace, to a certain extent, with the changes in the cutis. Above the peripheral infiltration it is thickened, by the edema merely, for there is no evidence of marked acanthosis or knuckles of epithelium pushing down into the cutis at the periphery, as we see in the papule. The intercellular lymph spaces are dilated. A few wandering and foreign cells are found near the cutis margin. There is hyperkeratosis, with a deepened granular layer. As we approach the part over the involuting cutis a few small colloid masses are seen. The intracellular or intercellular edema is not as great

FIG. 3.



H. L.—Hyperkeratotic horny layer. *G. L.*—Granular layer. *P. L.*—Prickle layer. *V.*—Vessels. *C.*—Cutis. *S. D.*—Sweat duct. *T. L. Inf.*—Typical lichen infiltration at periphery. *H. C.*—Horny concretion in mouth of sweat duct. *N. C. C. B.*—New connective tissue bundles. Section from near center of small ring.

as in the papule, for the canals are not so widely dilated, and the cells are smaller, while the horny layer is only slightly thickened, with no attempt at the formation of horny concentrations, but with more of an inclination to scale. The edema and subsequent hyperkeratosis gradually lessens as the cutis approached, but even in that location they have not disappeared; thus, the difference in the appearance between the central and peripheral epidermic portions of the lesion is one of degree only, the former being about one-half as thick as the latter. The interpapillary rete pegs have been flattened out over the full extent of the lesion by the cutis infiltration, the manner of obliteration being no different from the usual procedure which occurs in

similar conditions, and can be nicely demonstrated in its initial steps at the peripheral border. The lowermost layer of the cells in the central portion are deeply pigmented.

That the cutis plays the most important rôle in this anomalous lesion, as well as in the usual one, can, I think, be readily demonstrated by a comparative study of the epidermis and cutis, the former being only secondarily and comparatively slightly involved, while the latter presents marked changes.

Psoriasis-like Lesion.—It is to be remembered that these sections were cut from a piece taken from a patch with a rather sharp definition, a slightly elevated ridge and partially involuted center. Unfortunately the excision did not extend far enough outward to make the study of the sections complete.

The histological components of this patch do not differ from the above described elements found in other lesions. There is the same lichen infiltration in the cutis, perivascular changes, pigmentation, epidermic edema, with hyperkeratosis more or less marked in places. The rim is seen to be composed of new formed infiltration cells in the cutis, with the usual epidermic edema and hyperkeratosis. Just within this rim the infiltration is attacked by hyaline and other degenerative changes, which renders the mass more homogeneous and less reactive to the stains as we pass toward the center of the lesions.

The epidermis is acanthotic, and although it is pressed upon by the dense infiltration, yet it pushes downward in large rounded or lobulated wedges. There are points in the horny layer with retained nuclei, with some scaling. The infiltration does not stop abruptly, but shades off, as before described, with numerous little embryo papules near the periphery. Before these are developed they are probably enveloped by the progressive extension of the patch.

Glands and Follicles.—The glands, follicles and ducts for all three of the lesions can be described together, for they presented similar conditions in all of them.

Hair Follicles.—The mouths of the hair follicles contained a small amount of hyperkeratotic horny layer, but not sufficient to form a horny concretion. The follicular epithelium was only slightly edematous, but otherwise unchanged. The connective tissue about the follicle was markedly thickened.

Sebaceous Glands.—Seemed normal, with thickened capsule and slight periglandular infiltration.

Sweat Glands and Follicles.—The capsule of the coils is thickened, with infiltration about it. The epithelial gland cells are swollen, some of them degenerated and granular. In the lumen of some of the coils is a glassy, homogeneous substance.¹

¹ Mentioned also by Unna, 'Histopathology,' Eng. Trans., p. 308

The duct is normal, with the exception of a thickened membrane, until it reaches the epidermis, when its mouth may be plugged by hyperkeratotic cells, forming a small concretion, but in none of these sections were they of any size. Again, the lumen here may be dilated, or the duct become cystic at this point, which is often seen in lichen patches.

That the infiltration in certain of the lichen groups or cases of lichen planus, may begin about the sweat duct is true, but in the usual cases, where they are not primarily and superficially affected, they do not suffer; some of them, quite near the inflammatory area, being absolutely free from even perifollicular infiltration or increase of cells.

After studying the histologic phases of this case one is impressed with the evanescence and instability of the process in the cutis. Degenerative processes attack and rapidly change the form of the lesions. We fully agree with Unna,¹ when he observes, in speaking of ringed lichen: "While the true lichen nature is thus as evident on anatomical examination as on clinical, the absence of colloid and sclerotic² changes, as well as hyperkeratosis² with its horny pearls, points to the comparatively fleeting and superficial nature of this form. For this also speaks the serpiginous extension, and the ring form as such, which, although not absolutely foreign to lichen, is by no means so characteristic of it, as of most other dry cutaneous catarrhs."

That we are dealing with lichen planus is proved both anatomically and clinically, for the appearances just described in the cutis are characteristic. That the individual papules spread peripherally with central involution has been demonstrated clinically by watching the marked papules undergo this change, and histologically by the study of the appearances in the central portion of the small ring formed by this process, namely, obliteration of the rete pegs, slight epidermic edema and hyperkeratosis; bundles of new connective tissue and connective tissue cells running in definite directions; remains of degenerative changes; vascular involvement and changes; great increase of pigment and pigment cells, the latter being always significant of former abnormal processes. Thus, we have sufficient evidence in examining the central portion of the ring to positively assert that there has lately been an inflammatory condition there. Then, by following the section to the periphery of this ring we can at once determine the true nature of this inflammation.

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¹ "Histopathology," p. 308

² In this case we probably have sclerotic changes and certainly hyperkeratosis.

MERCURY IN THE TREATMENT OF LICHEN PLANUS—
REPORT OF SEVENTEEN CASES—DISEASE REGARDED
AS A SYPHILIDE.

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IN the fall of 1899 Walker's "Introduction to Dermatology" came into my hands, and I was struck with his warm endorsement of Liveing's treatment of lichen planus, by what seemed rather heroic doses of bichloride of mercury¹. To give $\frac{1}{12}$ gr. of the salt to a patient with no symptoms nor history of syphilis appeared bold and novel to me. I started the next case of lichen on $\frac{1}{16}$ gr. bichloride, with some trepidation, but after five days' treatment the improvement was so marked, as regards both lesion and general health, that I increased the dose to $\frac{1}{12}$ gr. t. i. d. The result was astonishing, and there were never any signs of mercurialization. All lesions had disappeared at the end of fourth week.

After this favorable result I used mercury in all succeeding cases of this disease. I usually gave $\frac{1}{12}$ gr. bichloride in tinct. gentian, t. i. d., but in two cases used the biniodide in doses of $\frac{1}{6}$ gr. t. i. d. Tablets of bichloride were given, in most cases $\frac{1}{16}$ or $\frac{1}{20}$, for one or two months after disappearance of lesions.

Only two cases gave positive history of syphilis, Cases 1 and 2. Case 9 gave incomplete syphilitic history. No. 2 now has gumma of brain and ulcerated palate. Three cases will be given in detail, with only simple outlines of the others, as to go deeply into all would prove needless repetition.

CASE I.—P. F., male, aged fifty-nine. Poorly nourished, anemic, weight, 116 pounds. Gives definite history of syphilis in early manhood. Case was first seen in August, 1899, and was typical and well marked, with a duration of four months. The entire surface of legs, inner surface of thighs, flexor surfaces of forearms and arms, and back of neck were involved. Itching was intense. Patient was put on arsenic, which was pushed to the physiological limit, and used Unna's lichen ointment, beginning with 5 grs. bichloride and 20 minims

¹ See also Dr. Schamberg's letter, recommending biniodide, JOURNAL, July, 1899.

carbolic acid to the ounce of diachylon ointment, which was increased to 20 grs. bichloride and 40 minims of carbolic to the ounce. This was kept up for nearly two months, with a fair degree of improvement, when an intense zoster, involving seventh, eighth, ninth and tenth intercostal nerves of the right side appeared, and the general health much worse than at the beginning of treatment. With bromides internally, and ichthyol in collodion externally, the zoster disappeared in less than a month.

It was at this time that mercury as a remedy for this affection was pointed out to me in Walker's book, and I gave this patient $\frac{1}{16}$ gr. bichloride in tinct. gentian. I rather expected to salivate the patient, but at the end of five days his condition was markedly improved, the lesions were fading, the itching less intense and the general health much improved. I then increased the dose to $\frac{1}{12}$ gr., t. i. d., and at the end of one month no sign of lichen was apparent. The only external remedy, after beginning the bichloride, was a 3-per-cent. carbolic ointment.

I kept the patient on mercury two months after apparent cure, giving $\frac{1}{16}$ gr. tablets first month and $\frac{1}{20}$ gr. second month. I saw the patient two months ago, and he reports no return of the trouble.

CASE II.—B. R., male, colored, aged thirty-nine. Syphilis in 1882. Well marked, typical lichen, more or less continuous since 1888; same location as in previous case, except two patches of size of hand on inner aspect of thighs, upper third, of hypertrophic type. Patient came under observation in 1897, and was given arsenic and Unna's lichen ointment, with more or less success, but patient was irregular in attendance, and was at no time entirely free from the eruption. In January, 1900, I gave him $\frac{1}{12}$ gr. bichloride, t. i. d., and in two weeks eruption was gone, except from hypertrophic patches on thighs. He failed to return until April 10th, of this year, and was still free from lichen, except on the old patches on thighs. He now has well-marked symptoms of gumma on brain, and ulceration of hard palate. It was at this visit that he first acknowledged the syphilitic history. He remarked that those white tablets (bichloride, $\frac{1}{12}$) "surely did kill that itching trouble," and he believed one more box would have driven it away from his thighs. He is now on inunction and K. I., and I have no doubt that even the hypertrophic patches will disappear.

CASE III.—H. F., male, aged thirty-two; history, negative; was first seen in 1895, when he presented two patches of hypertrophic lichen, with outlying papules on both legs, of three years' duration. Usual treatment, with some improvement, when he drifted away, and tried several physicians. He returned to me in January, 1900. I put him on $\frac{1}{12}$ gr. bichloride, t. i. d., and carbolic, 3 per cent., in ointment.

The outlying papules disappeared in about ten days, but not much improvement in hypertrophic patches. I continued the bichloride, and gave locally an ointment containing chrysarobin, 6 per cent.; salicylic acid, 12 per cent., and hydrarg. ammoniat., 10 per cent. In six weeks nothing was left but pigmentation. I kept him on bichloride, $\frac{1}{16}$ and $\frac{1}{20}$ gr., for two months, and one year later shows no return.

CASE IV.—J. D., aged thirty-seven. History negative; two weeks' duration; wrists and flexor surface; feet. Bich., $\frac{1}{12}$; ungt. carbol., 3 per cent. Quick result.

CASE V.—J. H., aged thirty-one; sailor; two years' duration; inner surface knees; history negative. Same treatment as Case 4. Good result.

CASE VI.—C. S., aged fifty-five; history negative; inner surface thighs. Bich., $\frac{1}{12}$, and Unna's ointment. Good results in two months.

CASE VII.—J. L., aged fifty years; history negative; duration one year; neck. Bich., $\frac{1}{12}$; ungt. carbol., 3 per cent. Much improved in five days; never returned.

CASE VIII.—J. H., aged thirty-five; four years' duration; inner surface thighs. Bich., $\frac{1}{12}$; and Unna's ointment. Result good.

CASE IX.—J. G., aged sixty; syphilitic history, somewhat indefinite, three years; junction legs and thighs. Biniod., $\frac{1}{6}$ gr.; ungt. carbol., 3 per cent. Quick result.

CASE X.—J. P., aged thirty-two years; one year's duration; located on arms. Bich., $\frac{1}{12}$. Good result.

CASE XI.—J. M.; one week; forearms. Quick result.

CASE XII.—M. K., aged forty; legs. Much improved in ten days; seen no more.

CASE XIII.—M. D., aged twenty-seven; arms and legs.

CASE XIV.—A. M., female, aged forty-six; neck. Cured in three weeks.

CASE XV.—W. L., aged twenty-six; legs and arms. Seen only twice; much improved.

CASE XVI.—G. S., aged nineteen. Much improved.

CASE XVII.—M. McQ., female, aged forty-nine; neck. Good result in two weeks.

Mercury, in doses of $\frac{1}{12}$ gr., bichloride, $\frac{1}{2}$ gr. protoiodide, and $\frac{1}{6}$ gr. biniodide, is not merely a tonic, but a decided alterative, and few, indeed, can stand such doses, except they be syphilitic. I now firmly believe that lichen planus is a syphilide (the effects of either hereditary or acquired syphilis on the nerves, if you please), and the excellent results from mercury, which I now regard as a specific, affords the best and only corroboration of this stand.

121 East Fortieth street, New York City.

CONDYLOMATA ACUMINATA LINGUÆ (VENEREAL WARTS OF THE TONGUE).*

By M. L. HEIDINGSFELD, M.D.,
Cincinnati.

THE extra-genital location of venereal warts (condylomata acuminata), common as they are elsewhere, judging from the infrequency with which it is mentioned in the general literature, is a matter of rare occurrence. Many of the reference books on skin and venereal diseases, and works on histopathology, Lang,¹ Unna,² Ziegler,³ Zeissl,⁴ Lydston,⁵ Taylor,⁶ Kaposi,⁷ Morrow,⁸ fail to make any note of it. That it has received more or less general recognition is evidenced by the notice it has received in the works of Scheet,⁹ Julien,¹⁰ Finger,¹¹ Neuman,¹² Virchow,¹³ Bumstead,¹⁴ Hyde and Montgomery,¹⁵ Jackson,¹⁶ Van Harlingen,¹⁷ Bangs and Hardaway,¹⁸ Reder,¹⁹ Caspiri,²⁰ Löwenbach,²¹ *et al.*, and by an occasional case in the general literature.

On November 27, 1900, a patient was presented before the Cincinnati Academy of Medicine, with a diagnosis of condylomata acuminata (linguæ), the history of which, briefly stated, is as follows:

Miss M. C., aged twenty-four years, puella publica, presented herself at the dermatological clinic of the Laura Memorial Medical College, relative to a few patches of herpes tonsurans vesiculosus on left cheek and neck, which were promptly and efficaciously removed with a few applications of Wilkinson's ointment.

Examination also revealed that the patient had a syphilitic infection of about two years' duration, as evidenced by the presence of plaques on the mucous membrane of the lips and pillars of the fauces, by the general adenopathy, and the history of a maculo-papular eruption, followed by pigmentation.

In examining the mouth for evidence of syphilis, a peculiar warty growth was noted, in the center of the tongue, near the circumvallate papillæ. The growth was rose red in color, glistening in appearance, sharply circumscribed, distinctly elevated above the level of the surrounding mucous membrane, soft in consistence, and presented all the characteristics of venereal warts, as they occur elsewhere on the body. It had the characteristic papillomatous or cauliflower appearance, and the small bright red spots here and there correspond to the tips of the

* Presented before the Cincinnati Society for Original Research, January 10, 1901.

individual papillæ, which were grouped together to form small lobes, and which, in turn, could be readily separated from each other by means of a toothpick or a small probe, to the level of the normal mucous membrane. A few small, isolated patches were also present near the tip of the tongue, but the remaining mucous membrane of the mouth was quite free of the growth.

The duration of the larger patch was about three or four weeks, and it began in the form of a few isolated papules, same in nature as the lesions then present at the tip of the tongue.

Examination of the genitals revealed the presence of venereal warts on both labia majora, and though slightly more exuberant, and more cauliflower-like in their appearance, they bore the same general characteristics as the lesions on the tongue.

The pronounced venereal character of these lesions led us to suspect either personal uncleanness or a "coitus illegitimus" as their direct cause, but inasmuch as she strongly denied committing any unnatural act, their etiology in this particular case is a matter of conjecture.

Warts, or so-called papillomata, non-venereal in character, also appear from time to time on the mucous membrane of the mouth. They differ materially, however, in their clinical appearance, much the same as the ordinary common warts of the skin, *verruca vulgaris*, differ from the venereal warts, situated elsewhere on the body. The fact that the patient was a "puella publica," that venereal warts were present elsewhere, and that clinical appearance of the lesions of the tongue were characteristic and typical, afforded conclusive assurance that the diagnosis was well taken.

Several members, however, took exception to the diagnosis, and expressed some doubt as to the nature of the lesions, inclining to the belief that they were either simply papillomata, or, inasmuch as the patient showed unmistakable evidence of an active syphilis, they were syphilitic in nature.

These expressions prompted the removal of some of the condylomata from the tongue and genitals for the purpose of a comparative study, and to conform the clinical diagnosis by means of a pathological examination.

On November 28th lesions were removed from the tongue and genitals by means of curved scissors, and were respectively submitted to a separate histological examination, after hardening in alcohol, imbedding in celloidin, sectioning, and stained after the ordinary methods, with eosin, hematoxylin, picric acid, Van Gieson, orcein, polychrome methylen blue, special method of Kromayer,³⁰ etc.

The examination revealed not only a close resemblance to the well-

known structure of venereal warts in general, but also a very marked similarity between the respective lesions from the portio-vaginalis and the tongue. (Compare Fig. 1 and Fig. 2.)

Histologically, venereal warts are a type "sui generis," and there is such little variation in different specimens that a diagnosis can be easily confirmed, and almost readily made by a pathological examination. The chief change is an acanthosis, or a marked hypertrophy of that layer of cells of the epidermis, known as the rete spinosum, a process that is often confused with a hyperkeratosis or a marked proliferation of the stratum corneum.

FIG. 1.



Condylomata Acuminata.
Portio vaginalis. x 72.

Under intermediate power (Fig. 1, j. 3, oc. 1, Winkel, x 72 diam.), the specimen removed from the portio vaginalis shows a marked hypertrophy of the rete spinosum, and a relatively small layer of stratified epithelium; in other words, the pathological process is an acanthosis, and not a hyperkeratosis. The cells of the rete mucosum are in a state of active proliferation, and mitosis or cell division is everywhere evident, not only in the lowest columnar cells but also in the upper and intermediate layers.

Many of the cells show multipolar division, and separation of the nucleus into three or more parts, a condition that is frequently observed in epithelioma and other forms of rapid epithelial growth. Many of the cells of the rete mucosum are unusually large, and the intercellular lymph spaces unusually wide.

The papillæ are greatly elongated, and when cut obliquely (as in this particular specimen), a peculiar reticulated appearance is produced. The elongation of the papillæ is frequently observed in many

FIG. 2.



Condylomata Acuminata.
Tongue. x 72.

pathological lesions of the skin, and in nearly all inflammatory processes like eczema, psoriasis, etc. Unna²² is of the opinion that the elongation of the papillæ is secondary and passive in nature, and is purely the result of direct mechanical pressure of the active downward proliferation of the interpapillary processes of the rete Malpighi. This, in a measure, would explain any elongation of the papillæ below the level of the normal epidermis, but it fails utterly to account for the marked elongation of the papillæ upwardly, which is so extensive that the papillæ project an inch or more (Lydston²³)* above the level of

* Lydston reports a case on the glans penis, which assumed the size of an orange.

the normal skin. If Unna's opinion is correctly based, hypertrophy of the epidermis should exert more of a compressing than an elevating influence on the papillæ.

Unna²⁴ also maintains that there is no increase in the connective tissue. We can concur if he means only a relative increase, because the amount of connective tissue in the papillæ and subpapillary layer is about normal. There must be an absolute increase of connective tissue, also new blood vessels and other elements, to account for the presence of the papillæ in their new location.

Unna²⁵ bases the passive elongation of the papillæ largely on the fact that nowhere is there any evidence of connective tissue mitosis, no budding of the connective tissue into the rete, as, for example, the active proliferation in the papillæ of the hair. This explanation is hardly ample, though reduplication of the connective tissue in the nature of tumor formation is exceedingly rare in the skin; as a conservative process it is exceedingly common, and so inert in nature as to escape detection. Every inflammatory process, however slight, undergoes connective tissue change, often without perceptible evidence.

Unna²⁶ is also of the opinion that it is a misnomer to call warts and similar growths papillomata. Though the chief pathological change is apparently an acanthosis, and the increase of connective tissue is not a relative one (only absolute), there is evidently some marked papillary disturbance, primary or secondary, as the case may be, which makes the term papilloma not entirely inappropriate. Clinically, the finger-like projections of the growth make the name suggestive, and the lobulated character of the growth indicate that the cause, whatever be its nature, exerts its primary influence upon the terminal branches of some cutaneous vessel or nerve, rather than over a diffused uniform structure like the epidermis.

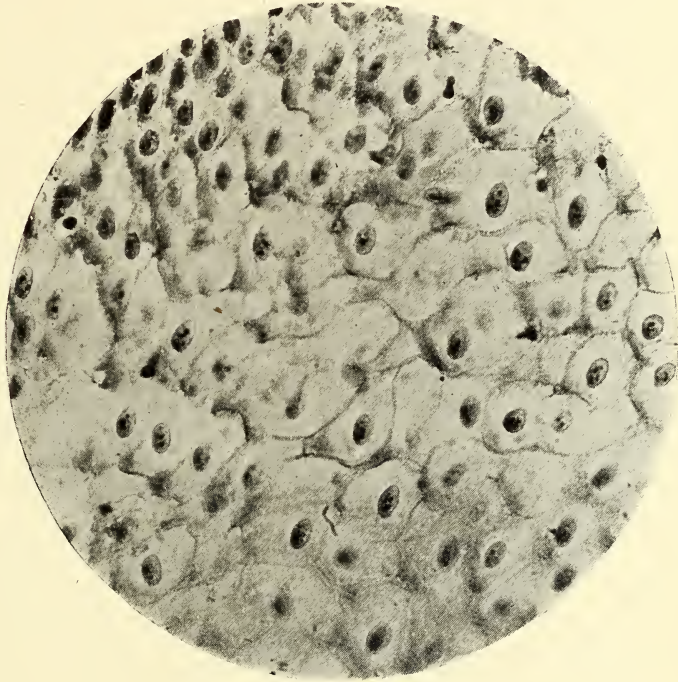
The relatively small amount of hyperkeratosis in the specimen removed from the portio vaginalis is complete in character, and shows no preservation of cell body and nucleus. These features serve to distinguish these forms from condylomata removed from mucous membranes, and more particularly from ordinary warts, *verruca vulgaris*.

Specimens removed from the tongue (Fig. 2, x 72 diam.) bear the closest histological resemblance to those removed from the portio vaginalis; they show the same extensive acanthosis, and relatively slight hyperkeratosis, the corresponding elongation of the papillæ and reticulation when cut obliquely. The cells of the rete spinosum show the same active proliferation, mitosis and multipolar division, and a corresponding increase of size of cell and nucleus. The sole distinguishing feature is the preservation of the nucleus of the cells of the

stratum corneum, which stains a deep color and preserves a roundish outline. Otherwise the analogy, both gross and in detail (compare Fig. 1 with Fig. 2), is complete, and the clinical diagnosis is confirmed by the pathological examination.

When specially stained, the cells of the enlarged and rapidly proliferating rete spinosum show, under oil immersion (Fig. 3, ol. immersion x 826 diam.), in addition to widened intercellular lymph

FIG. 3.



Condylomata Acuminata.
Tongue. x 826.

spaces, and elongated spinous processes, a condition that has been called epithelial fibrillation (epithel-fasern). This condition is frequently observed in various forms of pathological change, where the cells of the rete spinosum are undergoing rapid proliferation and hypertrophy. They are probably nothing more than the spinous processes, which, arranged in parallel ridges, rib the cell on all sides in several directions, and by extending slightly beyond the free border of the cells impart on profile the character of spinous processes, or so-called "cogs."

When properly stained, they readily outline the cells, and impart an uneven appearance to the level of a given focus, and form, at the junction of adjacent cells, corresponding angles with each other. That they are the spinous processes and a part of the normal cell accentuated by hypertrophy and overstaining, and not fibrin or fibrillæ (Herxheimer, Eddowes*) is evidenced by the fact that they conform in size, color, shape, form, and distribution to the so-called spinous processes, and can, as a rule, be readily traced directly into the latter; they preserve relatively the same parallelism and general direction and equidistance as the spinous processes.

Condylomata acuminata or venereal warts differentiate themselves from ordinary warts, verruca vulgaris, by a relative greater akantosis, and a relative lesser hyperkeratosis.

In verruca vulgaris, in addition to excessive hyperkeratosis and a relatively small amount of akantosis, many of the cells undergo incomplete keratinization, cell outline and nucleus being more or less preserved in successive layers. The cells of the rete are relatively smaller; they show less active proliferation and multipolar division; the intercellular spaces are less marked.

It is clearly evident that a marked difference exists between venereal warts and common warts, and that the warts on the tongue in this particular case, both clinically and histologically, were condylomata acuminata. The allusion that they may be syphilitic is not borne out either by clinical evidence or histological examination. The characteristic type of lesion in all forms of syphilis, no matter in what stage the disease may be, primary, secondary or tertiary, is the papule, a circumscribed infiltration of plasma cells, distributed in the surrounding connective tissue, and emanating from the adjacent vessels (next slide). Whatever change takes place in the epidermis, it is necessarily of a secondary nature. In this case we have no circumscribed connective tissue infiltration, and the change in the epidermis is a primary akantosis.

The extra-genital occurrence of condylomata acuminata, as on the mucous membrane of the mouth and elsewhere, is directly opposed to the opinion of Kaposi²⁸ and numerous others, who maintain that "condylomata acuminata owe their origin to the specific irritation of skin by the gonorrheal discharge flowing over it."

This opinion is also controverted by the recent investigation of Rasch,²⁹ who has found condylomata acuminata entirely unassociated

* Herxheimer and Eddowes are unable in their investigations to satisfactorily explain the true nature of these fibrillæ.

with gonorrhea, in 58 cases out of a total of 118, gathered from the polyclinic of Max Joseph, in Berlin. To recapitulate:

1. Extra-genital condylomata acuminata conform not only in clinical character, but also in histological structure, to condylomata acuminata of genital location.

2. The chief pathological change is an akantosis.

3. Though there is no relative increase of connective tissue, there is an absolute one, and hypertrophy of the papillæ is active, not passive, in character.

4. The so-called epithelial fibrillation is a normal process, consisting of spinous processes accentuated by hypertrophy and over-staining.

Since the above paper has been written and reported, a second case has come under my observation, also in a puella publica. The venereal warts on the genitals were much larger in size, and more extensive in distribution, covering the labia, and extending a considerable distance into the vagina, along the lateral and anterior walls. A few small excrescences were noted on the dorsal aspect of the tongue, some distance behind the circumvallate papillæ, and were so inconsiderable in size that they were removed with curved scissors and forceps with the greatest difficulty. Their examination revealed, however, the typical histological structure of condylomata acuminata, and confirmed the diagnosis. "Coitus illegitimus" was also strenuously denied in this case.

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Clinical Notes.

DIVERTICULUM OF THE BLADDER, ACCOMPANIED BY PERSISTENT BACTERIURIA.¹

BY GEORGE KNOWLES SWINBURNE, M.D.,
Surgeon to Good Samaritan Dispensary.

THE patient, a man now thirty-nine years old, was first seen by me three years ago. At that time he came to the Dispensary, and was suffering from frequent and painful urination, having a cloudy, purulent urine, partial retention, with a history of complete retention during the previous week, which had been relieved by catheterization.

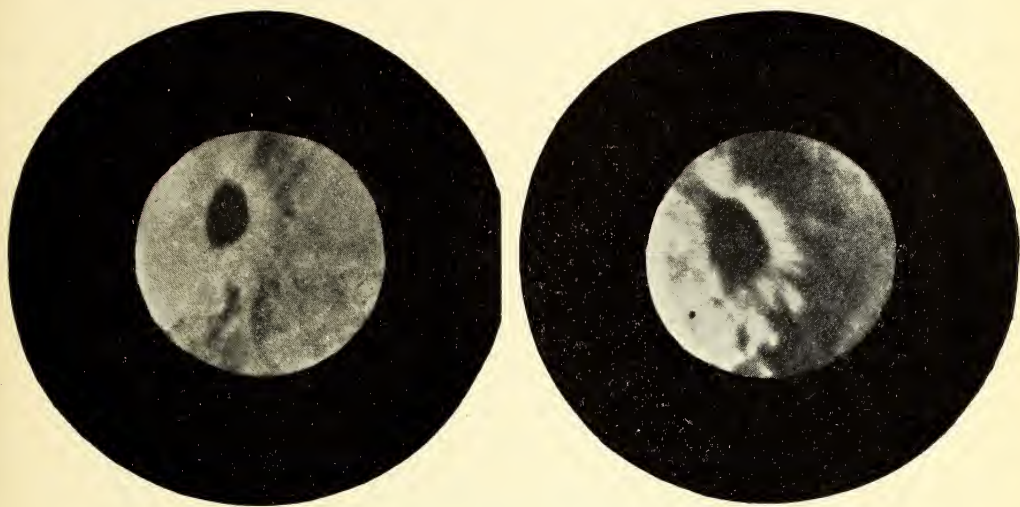
He had had a gonorrhea several years before, twelve or thirteen years ago; this was four years after marriage. He had had no further trouble until one year before he was seen by the writer, when he had an attack similar to the present one, but had not been obliged to resort to a catheter, and he got better without any instrumentation.

The case at the beginning did not present any special features except the persistence of the residual urine. There was a stricture in the deep urethra, which readily yielded to dilatation, and the prostate

¹Read at Academy of Medicine, May 16, 1900.

was enlarged and boggy, but not painful to pressure, *i.e.*, not so much so as one would expect, and a large amount of material could be expressed, *i.e.*, there was a chronic prostatitis. He was treated by massage, irrigation and dilatation, and rapidly got better, except in two particulars, he still had residual urine (about $1\frac{1}{2}$ oz.), and his urine was persistently cloudy.

He has taken urotropin very steadily for two years, and during that time had come to the dispensary twice a week. Each time after urination his anterior urethra was thoroughly irrigated with permanganate, and then his residual urine was withdrawn with a catheter and an ounce of protargol, 2 per cent., injected into the bladder. This



Photographed by Dr. W. K. Otis.

latter he could always pass out again immediately after; always the same amount of protargol which was injected.

One year ago (one year and three months) the Harris segregator was used on him, with the idea of seeing how the urine might be as it came from each kidney.

The urine came alternately into each bottle; the instrument was left in for twenty-five minutes. The same quantity and quality of cloudy urine was obtained on each side. The examination of this urine showed no pus, but a pure culture of the colon bacillus; otherwise the urine was normal. This method was repeated two weeks later, with the same result.

The similarity of the two specimens led me to doubt rather the accuracy of the result of withdrawing the urine by the Harris method.

The bladder was then examined with a Nitze irrigating cystoscope, and on the left side, in a position a little above and external to where I should locate the growth of the left ureter, and the condition was found which I show you here. As the left ureter at this time was not located, and small white flocculi could be seen issuing from this orifice, apparently showing some current coming from it, I believed for a long time that it was the dilated orifice of the left ureter. The right ureter was found in its normal position. As the man was in good health, and really not in need of treatment, he was not examined again, but I took him, in August, to Dr. Otis for a photograph, and again, in the latter part of March, 1900; the result of the latter photograph I show you here. These photos were taken and developed by Dr. Otis, and then the fact that in all probability this was not a ureter, but a diverticulum of the bladder was forcibly presented, and interest in the case re-awakened.

April 13th, in the presence of Dr. Brewer (Dr. Otis being unable to be present) an attempt was made to pass a ureteral catheter into this orifice. The catheter could be seen to enter about $\frac{1}{4}$ inch, and then began to double up, which suggested the probability of a calculus within. All manipulations and examinations on this man were made without an anesthetic, and no more was attempted that evening, but one week later I made a careful examination of the bladder, with the plain Nitze cystoscope, and the left ureter was found in its normal location, as viewed through the cystoscope; the diverticulum was apparently 1 inch above, and to the left. The bladder wall is healthy, though there is a tendency to traberculæ, especially about each ureter.

The patient's ureters have not yet been catheterized; they would have been on this last occasion, but I preferred to make a careful cystoscopic examination, and then give him time to recover from any ill effects. He has never had any ill effects follow any of these examinations.

There is nothing in the base of the bladder to account for the continuance of the residual urine; possibly some pouching.

When a catheter is passed till urine begins to flow, and apparently all the urine withdrawn, the withdrawal of the catheter about 1 inch is followed by a flow of more urine. This observation has been made by me many times. Then, 1 oz. of protargol is injected, and the patient can pass out the same amount as was injected.

The fact that the ureteral catheter entered the diverticulum only $\frac{1}{4}$ inch suggests the presence of a calculus within.

The patient feels in perfectly good health, and has steadily improved since he first came three years ago.

AN APPARENT CASE OF VARICELLA IN UTERO.¹

BY JOSEPH GRINDON, M.D.,

Professor of Clinical Dermatology and Syphilis, Medical Department,
Washington University, St. Louis.

I AM indebted to the courtesy of Drs. Henry Schwarz and C. C. Montgomery for the opportunity of seeing this case, and the permission to report it.

On January 25th, of this year, I was asked by Dr. Montgomery, Physician to the Obstetrical Out-Clinic of the Medical Department of Washington University, to see with him a child born at 5 that morning.

The mother, two girls, aged six and four years, and a boy, aged two, had had varicella, the marks of which still showed. The mother's case had desiccated ten days before delivery. Both mother and children were particularly robust and healthy. The children had never had any eruptive disorder except the varicella and measles. There was no history nor any signs of syphilis about any of the family, although the second girl had the bridge of her nose somewhat depressed, however not more than occasionally exists in individuals of untainted constitution.

The labor, which had been normal and easy, terminated seven hours before my visit, in the birth of a large, healthy, well-formed female child, at full term. On the face, left upper arm, back and buttocks were, in all, five lesions, presenting a superficial desquamation of the epidermis over an area 2 cm. in diameter. The center of each was marked with a small dark point, beneath which was some induration rather deeply set. The lesion on the upper arm was of different aspect, presenting a small, firmly adherent, superficial necrosis, set well into the skin. Beneath it could be felt a coin-like induration, movable, and about 1½ cm. in diameter. There were no clinical signs of a present inflammation about these lesions.

While the appearance of these secondary lesions was not that usual in varicella, it must be admitted that neither were the attendant circumstances usual, the vesicles, if such they were, having developed in contact with the amniotic fluid instead of the air. Syphilis could be positively excluded, besides the lesions in no wise suggested that disease. In view of the existence of the eruptive fever in the mother, and in the absence of any other reasonable opinion, a diagnosis of varicella in utero seemed justifiable.

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¹Read before the Bethesda Pediatric Society, March 8th, 1901.

Editorial Notes.

UNNA PRIZE.

The prize for last year was not awarded, consequently it is doubled (\$150.00) for 1901. The question at issue is: "The intimate structure of primary carcinomas of the skin, taking particular account of the relations which exist in this condition between epithelial proliferation and connective tissue resistance." The subject is of vast interest, but the wording is a little indefinite. Is epithelioma included, or is the investigation confined to nevus-carcinoma, whose epithelial character is by no means settled, and of which just two cases have been reported as such in America?

GERMAN DERMATOLOGICAL SOCIETY.

The seventh meeting will be held at Breslau on May 28-30, under the Presidency of Prof. Neisser. Presentation of cases is to be a conspicuous feature of the proceedings. The subjects for general discussion are:

1. The connection between cutaneous disorders with the distribution of nerves over the surface, particularly with spinal metamerism.
2. Special reports:
 - I. Treatment by X-Rays (Schiff).
 - II. Finsen's radiotherapy (Finsen).
 - III. Practical utility of currents of high tension in therapeutics (Freund).

These reports will be rendered as valuable as possible by the presentation of patients, pictures and apparatus.

PRELIMINARY PROGRAM, AMERICAN DERMATOLOGICAL ASSOCIATION.

The next annual meeting of the American Dermatological Association will be held in Chicago, May 30 and 31, and June 1, 1901. The following papers have been promised:

1. President's Address. Dr. Francis J. Shepherd.
2. Diseases of the Nails:
 - (a.) Parasitic Diseases: Symptomatology, Etiology, Pathology, Diagnosis. Dr. Joseph Grindon.
 - (b.) Inflammatory Diseases: Symptomatology, Etiology, Pathology, Diagnosis. Dr. Sigmund Pollitzer.
 - (c.) Trophic Diseases: Symptomatology, Etiology, Pathology, Diagnosis. Dr. Joseph Zeisler.
 - (d.) Treatment of All Forms. Dr. William A. Hardaway.

- 3 "Lichen Planus as a Vesicular or Bullous Disease." Dr. Charles W. Allen.
 - 4 "Intrafollicular Treatment of Follicular Diseases." Dr. Edward B. Bronson.
 - 5 "Symmetrical Keratoderma of the Palms and Soles in a Patient with Multiple Neuritis." Dr. John A. Fordyce.
 - 6 (a.) "Some Remarks on Blastomycetic and Protozoic Dermatitis."
 (b.) "Etiology of Acne Vulgaris."
 (c.) Lantern Slides Illustrating the Pathology and Bacteriology of Acne Vulgaris. Lantern Slides of Other Interesting Cases. Dr. T. Caspar Gilchrist.
 - 7 "A Case of Dermatitis Vegetans of the Inguinal Region and Inner Surface of the Thighs." Dr. Milton B. Hartzell.
 - 8 "The Pathology of Prurigo." Dr. Oscar H. Holder.
 - 9 "Preliminary Note Relative to a Rare Dermatoses." Dr. James N. Hyde.
 - 10 "Therapeutic Notes on Sulphur Cream; Goose Grease, and Crude Petroleum." Dr. George T. Jackson.
 - 11 "Sarcoma and the Sarcoid Growths of the Skin." Dr. James C. Johnston.
 - 12 (a.) "Linear Nevus."
 (b.) "Demonstration of a Pathogenic Fungus." Dr. Douglass W. Montgomery.
 - 13 "A Brief Report of Two Hitherto Unrecorded Cases of Blastomycosis of the Skin." Drs. Frank H. Montgomery and Howard T. Ricketts.
 - 14 Lantern-slide Illustrations on Smallpox. Dr. Sigmund Pollitzer.
 - 15 "A Case of Blastomycetic Dermatitis Cured with Potassium Iodide." Dr. Francis J. Shepherd.
 - 16 "An Extraordinary Case of Quinine Susceptibility." Dr. Henry W. Stelwagon.
 - 17 "Multiple Nodular Melanocarcinoma Originated from a Nevus." Dr. Augustus Ravogli.
 - 18 "A Case of Lymphatic Leukemia with Leukemic Lesions of the Skin." Dr. Grover W. Wende.
 - 19 "Colloid Degeneration of the Skin." Dr. Charles J. White.
- There will be an exhibit of Photographs, Drawings, Lantern-slides, and of Pathological and Bacteriological Specimens. The sittings will be held in the Chicago Beach Hotel.

Society Transactions.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Wednesday Evening, May 16, 1900.

W. K. OTIS, M.D., CHAIRMAN.

ORDER.

A Case of Multiple Vesical Calculi.—By DR. J. R. HAYDEN.

W. D., seventy-five years of age. Entered Bellevue Hospital, April 6, 1900. Has never had any form of genito-urinary or venereal diseases. About two years ago he began to have some frequency in urination, with an occasional and temporary stoppage of the stream. He has never passed blood, nor has he had any pain to speak of; patient also denies any symptoms or attacks of renal colic. During the last six weeks has passed several small uric acid calculi by the urethra.

Examination.—The urine is clear, acid in reaction, and 1016 sp. gr. No casts or sugar, but a trace of albumin. Uric acid crystals in large amount. Prostate is slightly enlarged, boggy and tender by rectal touch.

Urethra takes a full inch sound. Thompson's searcher rides over a posterior median enlargement, behind which it touches stone in a deep post-prostatic pouch. The bladder contains three ounces of clear residual urine. Palpation over the kidneys and ureters reveals nothing abnormal, nor does it cause the patient the slightest pain or discomfort.

Under general anesthesia Dr. Wm. K. Otis took several cystophotographs (See Fig.) of the calculi.

The bladder was then irrigated, and partially filled with warm saline solution, and with a curved evacuating tube and Bigelow's evacuator, I pumped out 102 uric stones (weight, 175 grs.), varying in size from a pin's head to pea. The bladder and urethra were then flushed out in the usual manner. The patient (See Fig. opposite) of the calculi.

DISCUSSION.

DR. GREENE asked if those calculi were in the pouch.

DR. HAYDEN said they were behind the prostate.

DR. GREENE asked if he was able to get them all out from under the pouch with the patient lying on his back.

DR. HAYDEN said he was; that he evacuated them very easily with a large curved tube.

DR. GREENE asked if he thought it got them all out.

DR. HAYDEN said he had; he had examined him since, and the bladder was perfectly free. He has little more vesical irritation than prior to the operation.

DR. GREENE said the reason he asked was that he knew of a case with

calculi, some of which had been removed, but some remained in the prostatic pouch, and when the patient was put in the knee-chest position then they came out of the pouch, and made it much easier to remove them.

DR. HAYDEN said he thought perhaps there were several stones, but he had no idea there were so many.

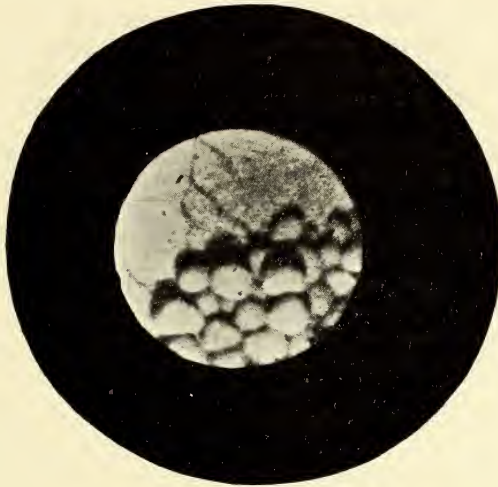
DR. GREENE said the absence of all symptoms was rather interesting; it was very unusual, the man never having the slightest pain over the kidney and ureter, and no trouble in the ureter until the last six months.

DR. SWINBURNE asked if he had enlarged prostate.

DR. HAYDEN said that the prostate was enlarged, very soft and boggy.

DR. VAN DER POEL asked if his symptoms had ceased.

DR. HAYDEN said they had, and that he was very comfortable, although, of course, he still had a little frequency of urination.



Vesical Calculi.

Photographed by Dr. W. K. Otis in Situ.

DR. GREENE said he must have very little irritation, or Dr. Otis would not have been able to have taken those pictures.

DR. HAYDEN said that he was under ether.

DR. GREENE: Still, you could wash the bladder out very clean?

DR. HAYDEN said yes, the urine was very clear. The credit of the photographs was due to Dr. Otis. He had taken very good pictures without etherization. It was no more painful than cystoscopy.

DR. SWINBURN said Dr. Otis had done this twice for him, using a little cocaine in the posterior urethra, and even that was probably unnecessary.

DR. HAYDEN said he thought Dr. Otis's idea in etherizing him was because he wanted to take a number of pictures in case of failure, and he wanted to have him absolutely still.

DR. GREENE asked if he removed the stones under the same anesthesia.

DR. HAYDEN said yes, as soon as they got through with the photography they washed him out.

Diverticulum of the Urinary Bladder. Photograph.¹—By DR. GEORGE K. SWINBURNE.

DISCUSSION.

DR. GREENE said that the author had said that in using the Harris segregator he had used it for twenty-five minutes. About how much urine did he get out?

DR. SWINBURNE said he thought about an ounce, in all. About $\frac{1}{2}$ oz. got into each bottle, as he remembered, roughly.

DR. GREENE asked if it was about the same amount in each bottle.

DR. SWINBURNE said there was a little more in one than in the other.

DR. GREENE asked if he would have judged from that one case that the Harris instrument was a failure.

DR. SWINBURNE said he simply did not rely on it. His own experience with it was very slight.

DR. GREENE asked if the prostate was so large as to interfere with the Harris segregator.

DR. SWINBURNE said the prostate did not appear to be enlarged. It seemed to have gone down. It was rather soft, and he quite easily got some material from it. It was not the kind of prostate that ought to give residual urine.

DR. GREENE asked if he thought the residual urine was due to the diverticulum.

DR. SWINBURNE said it was due to the atonic condition of the bladder. He did not think it had anything to do with the diverticulum, which was probably congenital.

DR. GREENE asked if he thought that urine came from the pouch back of the prostatic urethra.

DR. SWINBURNE said it seemed to. Of course he did not know how deep the diverticulum was. He had not been able to sound it in any way. It was a question in his mind whether the persistent bacteriuria was due to diverticulum or to the constant reinfection of the bladder from the prostate. You might have a condition of the prostate where germs were in there all the time, and the bladder was constantly reinfected from them. Some days his urine was quite clear, then other days it became cloudy, but there was no deposit in the glass at all. It was that peculiar cloudiness due to the presence of bacteria.

DR. VAN DER POEL asked if he examined the secretion from the prostate.

DR. SWINBURNE said he had made no special examination of it; he had simply massaged him. He had not done that lately. He did it the first year, but had not done it since. He found there was no apparent necessity for it. The last time he did it he obtained material from it. Since then he had not studied that part of it any further.

Recurring Vesical Calculus (*Specimens*)—By DR. P. R. BOLTON.

DR. BOLTON said that the patient from whom he had removed these calculi first entered his service at Bellevue Hospital about a year and a half ago.

At that time he removed the larger of the stones through a supra-pubic incision; the calculus weighed 4 oz., wet.

Last summer the patient again entered the hospital, and he again opened the bladder above the pubes, and removed the smaller calculus, which weighed about $1\frac{1}{2}$ oz., wet.

¹ See page, 235.

The bladder mucous membrane was only moderately injected and slightly, if at all, thickened, and nowhere ulcerated.

The wound, as before, healed promptly.

He had all the conventional forms of local and general treatment of cystitis, and, despite them all, the urine remained persistently alkaline, and contained a small amount of pus.

So that he presumed that by this time another calculus had formed.

He presented these specimens here as a preface to the request for information as to the best means of preventing the formation of other calculi.

DISCUSSION.

DR. JOHNSON said he had occasionally managed to render the urine of these individuals less alkaline by a method which, no doubt, they had all used; however, that was by giving pretty large doses of benzoic acid. It had occasionally succeeded extremely well in his experience, even in patients who had a pretty alkaline urine; never, however, alone, but always with the addition of local treatment of one sort or another to the bladder. He supposed that probably in this case Dr. Bolton had already used that.

DR. GUITERAS said he wanted simply to add to what Dr. Johnson had said, that he thought benzoic acid was a very good thing in cases of alkaline urine, and in many cases where the urine had been very offensive the bad odor had been removed through giving benzoic acid.

DR. CHETWOOD suggested, besides the local toilet of the bladder, a continuance of urotropin or the alternative preparation, cystogen. Decided benefit might often be obtained by persistent use of either of these remedies when at first they were not helpful. He had seen it reported somewhere, and had found likewise, in his own experience, that urotropin or cystogen were useful in phosphaturia. In alkaline cystitis and bacteriuria these formaldehyde preparations were particularly indicated. A recent writer (Dr. Harris, of Chicago) discussing the formation of urinary calculi calls attention to the causative rôle of bacteria in the formation of the nucleus.

DR. HAYDEN asked how much urotropin he gave him in a day.

DR. BOLTON said about 30 grains.

DR. HAYDEN said he merely asked, because he thought that sometimes, with the ordinary dose, one did not get very much effect, but if it was increased to 40 or 50 you got a very decided effect in rendering an alkaline urine acid.

DR. VAN DER POEL said he had used camphoric acid instead of benzoic acid in a number of cases, especially in females with alkaline urine, with about as good results as benzoic acid.

DR. BOLTON inquired if in cases of this kind he used nitrate of silver daily.

DR. SWINBURNE said it seemed to him that sometimes we found that stronger solutions at intervals, and sometimes weak solutions daily, did well in different cases, and it was well to try first one and then the other. He thought that daily irrigations were often very beneficial, and where used at intervals they were not, and if kept up for a long time you got an effect; that is, just as in using urotropin for a considerable length of time you got better effects, or a good effect, which was what was wanted, while if you stopped too soon you had a failure.

DR. GREENE said that his personal experience in those cases had been that he got a better result from very weak solutions of nitrate of silver, given not

more than two or three times a week; start with 1 in 30,000, and he seldom used much stronger than 1 to 7,000 to 8,000. He found that with all cases of that description if he regulated the diet carefully, as had evidently been done with this man, and if, above all things, he kept the skin in an active condition, that he got very much better results; that is, if he had them take a mild form of Turkish bath, put them in a hot box, or had them take some light form of exercise, he got very much better results—that is, combined with very mild local treatment of the bladder—than he did when he relied either on the general treatment alone or on the local treatment alone. Urotropin, from what experience he had had with it, he was inclined to believe was as good as salol, or several similar preparations, but only to a comparatively limited extent, and if the reliance were placed on them alone, and not a great deal of attention paid to those other details, so that the kidneys would throw down comparatively clear urine, the results would not be very good. A preparation which he had used a good deal, but had no idea what its scientific action was, particularly in phosphatic urine, and from what he got better results than from anything else, was the fluid extract of kava kava. He had used that quite considerably for a good many years, in a good many cases of that description, and apparently it was better than any other thing he had ever used. Just how it exercised its action he did not know. It was harmless; used in teaspoonful doses two or three times a day it had never been followed by any bad effect.

DR. VALENTINE said that those who had made it a rule to go to Paris and Berlin for regular periodical special investigations had observed that in the great genito-urinary services of both cities bladder washings, with silver nitrate, 1 to 1,000, and even 1 to 500, were ordinarily used, with apparently very little reaction, and certainly slight, if any, suffering. Here it was entirely different. Vesical washings of 1 to 5,000, 1 to 8,000, even 1 to 10,000, in most patients produced acute pain, frequent micturition and all the concomitants of rapid, violent vesical irritation; in one case 1 to 20,000 of silver nitrate set up all the symptoms of violent cystitis, lasting at least two hours. It seemed curious that this extraordinary susceptibility should exist in our country, while nothing like it obtained in Europe. He did not know whether his experience in that regard differed from that of others engaged in the specialty. At all events he would like the opinions of his colleagues on the cause thereof.

DR. JOHNSON said, in reference to Dr. Bolton's question, that it was his practice to wash out patients with chronic cystitis daily, and he usually used a solution of nitrate of silver as strong as 1 to 2,000, and if the patient bore it well, 1 to 1,000; but the most effective thing he had found for the diminution of pain, and for the diminution of frequency of urination, and he supposed he used it perhaps once a week on those patients, was that instillation of about a dram of 1 to 100 solution of nitrate of silver, partly into the prostatic urethra and partly, probably, into the bladder also. It was an old remedy, but he thought it deserved mention because it was so exceedingly efficient.

DR. GUITERAS said that the strength of the solution he was in the habit of using, in washing out the bladder with nitrate of silver, was 1 in 4,000; that was the average strength, and he generally washed out the bladder with that strength of silver every other day. Of course the susceptibility of patients varied considerably. We all see patients whose bladders we irrigate with 1 to 2,000 nitrate of silver from the meatus, in cases where there was chronic posterior urethritis and cystitis, with very little reaction. In other cases 1 to 16,000

nitrate of silver would cause the patient almost to faint away. He thought that if the bladder were washed out by a catheter that the patient could stand a much stronger solution of nitrate of silver without causing him any pain and tenesmus than if the bladder were washed out by the Janet method from the meatus.

DR. GREENE said that as regards the question asked by Dr. Valentine, he had often noticed, that is, he had often read, of the solutions which they employed in Germany, and they were of a strength which certainly would not be well borne here, and his explanation of it had been this: That, for instance, the German emigrants we see here are people who would not be classified as delicate nerves; they were rather of a plethoric habit, and especially people who had not lived long in this country. The English and the Germans he found could stand very strong solutions of nitrate of silver without any apparent very great reaction, whereas the people who were at all inclined to be neurasthenic, and particularly the American race, would react badly to a solution of any very great strength, and even as low as 1 to 10,000 would sometimes cause them a good deal of distress. It seemed that the principle involved, outside of any action that nitrate of silver might have in destroying the bacteria, was to stimulate the circulation there, and we must be guided by that in making out the strength of the solution, and that we could not have one rule as regards the strength of the solution that would fit all cases. The solution he was particularly fond of using in those cases, like Dr. Bolton, was a saturated solution of boracic acid in 1 to 10,000 bichloride, with one drop to the ounce of carbolic acid, and then gradually increasing the strength of the carbolic acid if the solution seemed to do good to the bladder wall.

Two Cases of Renal Calculus Filling the Entire Kidney Pelvis.—

By DR. A. B. JOHNSON.

DR. JOHNSON said that the title he found printed upon the card was not strictly correct, although one of those calculi did fill the pelvis of the kidney, and extended into the ureter and encroached into the kidney substance; the other did not. The two cases might very properly, he thought, be described together, because they had many symptoms and signs in common, and were pathologically of a similar character. That stone he thought was a very pretty specimen. The patients were both women, and as one woman was about forty—that of the smaller stone,—the other woman about thirty-three,—that, of the larger stone—from a diagnostic point of view the cases were quite interesting. The woman who had the smaller stone had suffered for two and one-half years from entirely typical attacks of renal colic. She had, however, no frequency of urination. The woman who had the larger had suffered for eight years from a gradual deterioration of health, accompanied by a muddy condition of the urine, with frequent urination, but without any symptoms at all referable to her kidney. The most that could be gotten out of her by questioning her was that she might possibly have suffered from slight soreness in the back; but her condition had never been attributed at all to her kidney. Both these patients were greatly reduced in strength and health by the chronic suppuration. The urine of each was acid, and highly purulent. They were poor, anemic creatures, and, therefore, not in a very good condition for a severe operation. The case in which the smaller stone was found presented, however, a very large abdominal tumor. The tumor varied in size from time to time, and even from

day to day. The variations in size were accompanied by certain definite symptoms. When the tumor grew larger in this woman she had usually a chill and a septic fever, her urine at the same time becoming quite clear. The other woman, however, he thought had no fever, and her urine was constantly purulent. Neither one of them had any hematuria. In the case of the smaller stone the Harris urine segregator was used with such satisfactory results that he thought it would have been well to have operated upon her kidney even though he had not been able to feel so distinctly a tumor. It was one of the very few cases in which he had used the Harris instrument with complete satisfaction. The urine from the left kidney, which was the one diseased, came out perfectly pure pus; the urine from the other side came out almost absolutely uncontaminated. Why he was successful in that case and why less successful in others he had not been able to say. In about one-half hour about a dram and a half of thick pus collected from one side, and about 2 or 3 drams of quite clear urine from the other.

In the other case, the larger stone, the Harris instrument failed entirely. The urine that came out from the supposed healthy side was quite as purulent as that that came from the other. He tried on several occasions to use it to better advantage, so that he was led to catheterize the ureters by the Kelley tube, and a direct method of illumination. The catheterization resulted in showing a perfectly healthy normal urine from the right kidney, and a highly purulent urine from the left. In both of these women the urine was found to be filled with streptococci; no tubercle bacilli. The physical signs in the two cases were quite interesting. The abdominal tumor was easy enough to feel, and varied in size from day to day, and its elasticity could be appreciated with comparative ease. In the other case, however, there was no definite tumor to be felt; but in spite of the fact that, as they all could see, the stone was extremely irregular in shape, there was no pain on pressure, so it was only with the greatest difficulty he could make up his mind that there was a definite enlargement of the kidney. The patient never complained of any acute pain, no matter how firmly one pressed on her loin. The operation in each case was an extraperitoneal nephrectomy, with an incision parallel to the ribs, and about an inch below. In the case of the woman with the small stone the kidney was found firmly adherent to an inflamed fatty capsule, and the capsule and the kidney were removed together. The kidney was converted into a thin-wall pus sac about 6 inches in length and 3 inches in depth. No normal kidney tissue could be seen to the naked eye, but under the microscope the lesions of a chronic pyelonephritis were very evident. In the case of the smaller stone the stone itself apparently from time to time blocked the dilated ureter. The lumen of the ureter in this case was about as large as one's middle finger, and readily admitted a 30 sound. The kidney and ureter down to below the brim of the pelvis were removed in one piece. The operation was not difficult.

In the other case the kidney was not larger than normal, but there were points of distinct fluctuation where the adhesions were not extensive, and it was sufficiently easy to remove. It did not appear to be enlarged or diseased. In this case upon opening the kidney this sharp projectile which one sees at the bottom of the stone was found passing down through the pelvis of the kidney a short distance into the ureter, and these several projections which we see were laying in the centers of pus cavities developing in the various calices of the pelvis. It was, he thought, a quite useless operation in every one of those cases to merely

open and remove the stone. He thought in every one a nephrotomy would have been attended with a very imperfect result, and he believed in all cases of suppurative lesions of the kidney, where it could be done, that nephrectomy was very much more satisfactory. He thought one ought to strain a point to get the kidney out, rather than to open and leave it, because subsequent operation was much more difficult if it was left.

In both cases the operation was not attended by any great degree of shock and the wounds healed well and the woman left the hospital in very excellent health, and in both the condition of the urine had improved to such an extent that it was practically free from any inflammatory evidences after about four or five weeks.

DISCUSSION.

DR. A. A. BERG said that in reference to Dr. Johnson's removing the entire kidney and ureter at the primary operation, it had been the practice at Mount Sinai Hospital to simply drain those kidneys that had been converted into large pus sacs, thus favoring shrinkage of the organ, and then at a subsequent period to resort to nephrectomy. In the interim the patients were carefully nourished, as they invariably were in a much debilitated state before the primary operation, and on that account bore formidable operative procedures very badly. Furthermore, the secondary operation was often much simpler and easier than was the primary one.

In this connection, showing how a kidney would shrink, when the irritating influences were removed, a very interesting case came under his observation last summer. A patient had been admitted to the hospital for hemorrhoids. He complained of pain in the left kidney region. There was a small amount of pus in his urine and some oxalate of lime crystals; the urine was acid in reaction. Cystoscopic examination revealed pus coming down from the left ureter. The right kidney was normal. A diagnosis of oxalic stone in the left renal pelvis was made and a nephrotomy performed. The kidney was a large succulent, white kidney, and contained an oxalic stone the size of a walnut. The kidney was replaced and drained. A persistent urinary fistula remained, and a secondary operation for its closure was undertaken. The kidney at the second operation was found to have returned to a practically normal size, and as far as microscopic appearances went it was in a healthy condition.

DR. GUIERAS said he should think in the case of the patients on whom Dr. Johnson operated, that a nephrectomy was evidently indicated. He thought when there was considerable destruction of renal tissue, by a calculus, that the kidney should be removed. Of course simple nephrotomy, cutting into the kidney and removing the stone should not be as dangerous as nephrectomy, but at the same time a nephrectomy was certainly dangerous, and it was his opinion that when you had made an incision down on the kidney and in the kidney which you were exploring to remove a stone it would be better to remove the entire organ at that one operation, rather than to wait and expose the patients to double danger by a secondary operation.

Dr. Guieras said that after the discussion on the paper was finished he should be very pleased to present a calculus taken from a patient by the operation of nephrotomy.

DR. GREENE asked if any quantitative analysis had been made as to the amount of urea before and after the operation and whether there was a tendency to suppression of urine?

DR. JOHNSON said he did not recollect whether the examination for urea was made in these cases or not. The amount of urine, however, was slightly diminished for twenty-four or forty-eight hours, but not noticeably. He meant to say in reference to the question of nephrotomy or nephrectomy in suppurative lesions of the kidney that of course he who would lay down a hard and fast rule would blunder. It was a question of individual judgment for the operator who was doing the operation to say in a given case whether it would be best for him to simply open the suppurating sac and drain it, or whether it would be better for him to remove the kidney, if the kidney could be removed with safety, and if it was in such a state that it was quite hopeless to suppose that it would regain any useful functional activity, and if it was in such a state that it could be removed, it seemed to him absurd to say that it was not better to remove it. As a matter of fact, in looking over a very large number of cases which he had had more or less under his own observation, and some of them under the observation of other surgeons in Roosevelt Hospital, the mortality for suppurative lesions of the kidney treated by nephrectomy was considerably higher than those cases treated by nephrotomy, and yet that in itself was no argument in favor of nephrotomy, for in no case had incision and drainage made the general condition of the patient, the condition of the organ, the conditions and the number of adhesions such that nephrectomy was impracticable. But any one who asserted that those kidneys after having been opened and drained were really easy to remove—he must disagree with him. There was no more difficult operation in surgery, in his experience, than the attempt to remove a kidney which had been extensively destroyed by inflammation, but which had left behind it a persistent sinus. Often and often one finds those kidneys adherent to various structures in the abdomen—for instance, the vena cava, very often exceedingly adherent to the peritoneum and the peritoneum attached to other viscera in such a way that their removal becomes absolutely impossible. He knew of several individuals in the City of New York who had been operated upon by nephrotomy for suppurative lesions of the kidney, and in whom several attempts had since been made by most competent surgeons to remove the kidney and the attempt had to be given up, so that it was really a difficult matter and often one was forced to do nephrotomy rather than a nephrectomy for suppurative lesions of the kidney; yet if the kidney was so far destroyed he did not believe it was likely to become a valuable organ again, and if it could be removed without undue risk he thought there was no question it should be done at the primary operation.

Calculus Removed from a Patient by Nephrotomy.—DR. GUIERAS said that the little stone which he held in his hand was about $\frac{3}{4}$ of an inch in length and about $\frac{1}{2}$ inch in width. The patient came to him about eight or nine months ago complaining of pain in his stomach. He said that the pain came on generally after exercise, and that at times the pain was so severe he passed blood in his urine. On palpating the lumbar region on the left side he found there was a slight tenderness. He took two specimens of his urine with the Harris segregator and found, as near as he could remember, that the urine coming from the right side was comparatively in very good condition, although a few hyaline and granular casts were present. The urine from the left side, where he located the lesion, contained some pus, blood and renal epithelium, and hyaline granular epithelium and blood casts, also casts containing oxalate of calcium crystals. He did not see the patient again for about seven months, when he decided upon an op-

eration. He operated upon him by the usual lumbar incision, cutting down upon the kidney, which was very adherent. He palpated the kidney and needled it, but felt no stone. Then he made an incision through the convex border of the kidney down to the pelvis and found a stone pushed into the mouth of the ureter. He removed the calculus and sewed up the kidney; the patient lost very little blood, about six or eight ounces. The patient died in three days. It was a very sad case, but at the same time it was a case which was interesting and might bring out some interesting discussion. The patient was very restless after coming out of the ether and vomited considerably. He continued to vomit from twenty-four to thirty-six hours. He passed during the first twenty-four hours seven ounces of bloody urine. During the next twenty-four hours he passed fourteen ounces, and on the third day he passed seventeen ounces. He however became uremic and died evidently of uremia. He was given as soon as possible large quantities of water to drink; also, diuretics, salines and sweet spirits of nitre, hot packs, and many other remedies. He was also given calomel to move his bowels. At the end of thirty-six hours he was given hot rectal saline irrigations, but nothing seemed to have any effect, and he sank into a uremic state and died. He presented these specimens to show how such a small stone of a kidney could result fatally. There was no question in his mind that if this patient had not been operated upon he would have lived for at least a number of months. He might have died in two months, but the probabilities were he would have lived much longer. He thought without doubt the operation shortened his life. Perhaps if he had performed the operation when he first saw him, instead of after seven months had passed by, he might have saved his life by the operation: the stone was the cause of kidney trouble, which ultimately would have caused his death, but we should always think twice before we operate on the kidney, before we do either a nephrotomy or a nephrectomy, and we should always be guarded in our prognosis. The prognosis naturally in this case was a rather better one than in any previous case he had happened to have.

Dr. Guiteras said he should like to have brought out in the discussion what to do in the case of a diminished excretion of urine after these operations.

DR. CHETWOOD, in connection with Dr. Guiteras's case, said it was a noteworthy fact that operations of an apparently mild nature upon the genito-urinary organs were sometimes followed by a fatal issue. He remembered a case in his service in the hospital who died in forty-eight hours after an external urethrotomy from acute suppression of urine. Patients died frequently after external urethrotomy, and the cause of death of such cases was likely to be post-operative suppression of urine, or what might be called surgical kidney, probably due to infection. He remembered another case in his service at the Polyclinic Hospital of a man who had a damaged kidney, who was operated on for stricture by external urethrotomy. His custom had been to deluge these patients with water, preferably some water which had been proven to have diuretic properties. In the case in question the patient's condition became very serious after the operation. The operation was not a difficult one, the stricture was not impassable, but twenty-four hours after the operation the kidney practically stopped secreting, there being only four ounces of urine in the first twenty-four hours, and about four in the succeeding twenty-four hours. It was at the time when urotropin was first introduced and on the grounds of there being a septic cause he had determined to give this remedy and had administered it with very striking effect—in this case so striking that he feared that the result might be coincidence, and

therefore having administered the drug for twenty-four hours and the tide of urine having resumed the normal flow he had stopped the urotropin, with the result that the previous bad condition reappeared; the flow of urine greatly diminished, the temperature again went up and the patient's condition became generally serious. These symptoms were all promptly relieved by the re-administration of the urotropin. He was led from his experience in this case to employ the drug in similar cases of post-operative suppression, and many times with good effect. He was therefore led to suggest this drug as a proper agent for post-operative suppression of urine.

DR. JOHNSON said he thought that most of those who had used it thought a pretty large intravenous saline infusion, followed by introduction into the rectum every two hours of a large quantity of normal salt solution, had been found very effective to make a patient pass more urine after operation.

DR. SWINBURNE said he was glad to hear Dr. Johnson speak of the transfusion of the saline solution. He was hoping some one would speak of it.

DR. LAPOWSKI asked how was the condition of the heart and other organs?

DR. GUITERAS said his heart was in good order.

DR. BERG inquired as to the condition of the other kidney.

DR. GUITERAS said the patient was transfused and given about three times a day rectal irrigations of saline solution. The patient had urotropine before the operation, and just as soon after the operation as his stomach would tolerate it. Of course, they had all seen cases die of suppression, and cases die rapidly after any operation on the genito-urinary tract when the kidneys were damaged, but it seemed to him this particular case was a favorable one for operation. The man was twenty years of age, was tall, and might be called robust, although there was a pallor there which indicated that he was not particularly well nourished. He never had had any edema, and his heart's action was good. There was no stone in the other kidney. He was led to believe from the specimen of urine coming from that right side that there was no stone in the other kidney. The other kidney was in fair condition. The amount of urea was normal, coming from the right kidney, not from the left.

Improvements in Catheters and Filiform Bougies.—DR. VALENTINE: This filiform bougie, of the best French make, shows the danger we daily incur, in that the instrument may break at its most vulnerable part, namely, where the meal cup envelops the distal end of the soft material. Indeed, literature presents several cases in which this occurred and where cystotomy was necessary to remove the broken instrument, after unsuccessful attempts to extract it, *per vias naturales*. These new forms of fine bougie introduced by Dellefosse of Paris and Frank of Berlin, offer no such dangers. The metal part is doubly screwed within the soft material and extends about twice as far as did the metallic cup holding the soft material in the still generally used design. The consequence is that no sharp bends of the flexible part occur anywhere, and no extraordinary strain is put upon the woven material or its coating. Moreover, the joint it makes with the catheter, sound or urethrotome to which it may be attached is far smoother than was possible with the former flexible guides. These new instruments are put upon the market by Delemotte of Paris, who also made this new filiform with metal reinforcement within the shaft, in no wise affecting its pliability, but giving its external end greater firmness.

It also gives me great pleasure to show an improvement in American instru-

ments, which I think will yield as much satisfaction to others in genito-urinary work as it does to me. It is a semi-soft catheter which I induced the J. Ellwood Lee Company of Conshohocken, Pa., to make. You observe that its lumen and eye are exceedingly large; its internal and external coating very smooth, and its pliability as great as those of the French instruments. The catheter being entirely new, I am not as yet able to say how well it will withstand the influence of urine, nor how well it will bear sterilization. Experience with similarly coated filiforms made by this house cause me to hope that we will have instruments from it that will equal those made abroad. I take credit to myself for persuading the Ellwood Lee Company to make these catheters with large funnel ends. This does away with the metal or rubber attachment needed for bladder-washings to make the use of the syringe possible, and also renders easy plugging the catheter with a wooden spigot, when a retention-catheter is necessary.

DR. GUIERAS said he was very glad Dr. Valentine had induced Ellwood Lee to place upon the market such a well finished catheter as the one he had in his hand. He would like to say that Ellwood Lee had improved very much in making catheters. The maker should be appreciated by us all because the catheters that he sold were at a moderate price and the soft rubber ones were certainly not only of a good finish, but very serviceable. He had been using his catheters now for about four months—that is to say his improved velvet eye soft rubber catheter, and he must say they were very satisfactory.

DISCUSSION.

DR. PEDERSEN said he would like to ask one question. He did not understand from Dr. Chetwood's paper whether all attempts had been made to restore the urethra to a normal condition in the several cases which he told about in the first part of his paper as having had vasectomy performed.

He could understand that vasectomy would be readily accepted in certain cases of prostatic hypertrophy, in which for some reason neither the Bottini operation nor a prostatectomy could be performed. There was very little left for a patient of that class who was suffering recurrent attacks of epididymitis; but he was somewhat surprised at the willingness of the younger patients to accept the operation. His question was, whether in those young men all means had been exhausted to discover and correct all pathological conditions of the urethra. They had all seen such cases. A case that came at once to his mind was one in which there was a tubercular predisposition, a posterior urethritis, and a well defined stricture at the bulbo-membranous junction, which had not been recognized by his physician. The case came his way, and by paying proper attention to the stricture and the patient's posterior urethritis the recurring attacks of epididymitis were brought to an end.

Recurrent Epididymitis¹—By DR. CHETWOOD.

DR. LAPOWSKI said that as far as he could catch the meaning of the paper, the author advocated vasectomy in order to protect a patient from recurrent epididymitis. If that was so, then such commendation must be based upon more substantial grounds, more facts, more clinical observations than the author presented to us. He would think twice before he would advise a patient to have that operation performed, because he had recurrent epididymitis. Although the vas deferens is the main channel of communication between the genito-urinary or-

¹ See JOURNAL CUTAN. AND G.-U. DISEASES, VTJJ, p. 445.

gans and the epididymis, the line of connection is not broken when we cut the vas deferens. There are many other routes by which an irritation, infection—be it bacterial or toxic—can be transmitted or transferred to the epididymis.

The fact that with a passable vas deferens—*ceteris paribus*—epididymitis will occur and recur easier and oftener than when the vas is obliterated is not a sufficient reason for advising the operation.

DR. VALENTINE said he would thank the author to inform the Section whether, before deciding upon vasectomy in recurrent epididymitis, he employed galvanism. He had had such satisfactory results, especially in chronic and recurrent epididymitis, the pain and swelling so soon and permanently subsiding, that he had never found it necessary to deprive a man of his ability to procreate, in order to cure his epididymitis. The use of galvanism was so simple and so effective in most cases that it seemed to him the preferable procedure. A mild current was used, beginning with practically imperceptible two or three milliamperes in a séance of two to three minutes and increasing the milliamperage and prolonging the séances very gradually. The intervals between the séances are from twenty-four to forty-eight hours at first; they are gradually extended as the improvement shows itself. Under galvanism, which seems to aid internal medication, with potassium iodide and external applications of guaiacol, ichthyol and mercury, he had not found it necessary to perform any operation for epididymitis, but until he found a case which resisted the milder, conservative measures, he should abstain from radical surgical procedures.

DR. SWINBURNE said he thought it would generally require very little persuasion to induce a patient with recurrent epididymitis to have such an operation performed. In those cases who were constantly subjected to catheterization of the bladder and who had from time to time on that account an attack of epididymitis, that operation was before his mind as the thing to suggest to a patient under such circumstances because the patient was not in position to give up his catheter, and the resection of a portion of the vas would certainly preserve him from any further attacks. It never had occurred to him, however, that it might be necessary in the recurrent attacks from simple urethritis or from gonorrheal urethritis because he had not seen such a large number of recurrent attacks as to have the idea of urging the operation or presenting it.

DR. PEDERSEN asked Dr. Valentine how he applied the galvanism. Did he place one electrode within the urethra, or were both placed externally?

DR. VALENTINE, in reply to Dr. Pedersen, said that in using galvanism in those cases the negative pole was applied to the scrotum at one séance, and the positive at the next, thus alternating at successive séances, but not at the same one.

DR. GREENE said there were one or two points he would like to speak about. He had seen quite a large number, as they all had, he thought, of those cases of recurring epididymitis in young men or men of middle age. In almost all those cases it had been his experience he had been able to find somewhere some indurated nodule in the epididymis large enough to be felt. His practice then was to apply to those patients an iodide of lead ointment for a long period of time weeks or months. His experience had been that that nodule would gradually disappear—that, combined with any local treatment towards any inflammatory condition that might exist in the urinary tract. He could understand in those old prostatics who were obliged to use a catheter, and to whom life held out no longer very much charm, to be relieved from their pain and suffering were willing to consent to such an operation, but one objection that appeared to him

to that operation was as regarded performing the operation on old people as well as on young ones, but more particularly on the younger people, was the fact that operations on the female on the ovary were attended, as they all knew, with subsequent mental disturbance. From what records they had of castration on the male for enlarged prostate, it seemed also there to be tendencies for that operation to be followed by mental depression. He therefore was afraid, unless there were quite a large number of cases going to prove that there was no danger of that, that that operation might have the same tendency either in giving rise to or in developing some dormant condition already existing of mental upset.

DR. CHETWOOD, in closing the discussion, said it was not the intent of his paper to advocate what might possibly be termed an extreme procedure for the relief of epididymitis. He did not care to be put on record as advocating any such measure without resorting first to milder measures, and he had had, in common with everybody else present, numerous cases of recurrent epididymitis which had gotten well under such measures as were aimed at the lesion in the urethra. He did not intend to advocate this operation for the relief of epididymitis as a general thing, but as stated was simply presenting certain facts bearing upon a case which to him were very striking and suggestive in connection with the pathology of epididymitis.

In answer to Dr. Pedersen's question regarding treatment of the younger cases, he said that they were all treated previously by such measures as were generally adopted for chronic urethritis, such as instillations, massage of the prostate and irrigations. Vasectomy did not necessarily mean double vasectomy. He would always hesitate to perform the double operation in the case of younger men. If the vas were already completely closed by inflammatory deposit its ligation could make no difference. But this was the question raised in his paper. He had gone over the records of Drs. Van Buren and Keyes for twenty or thirty years back, and was much impressed by the uniformity of the evidence. In all cases of bilateral epididymitis in which there had been several recurrent attacks there was evidence to show that the ducts were still open, so that a possible infection could spread down from the urethra into the testicle, whereas in many cases of double epididymitis in which there were no recurring attacks the evidence showed that the ducts were closed primarily by inflammatory deposit. This operation could properly be performed in some cases of persistently recurring attacks of epididymitis which had failed to yield to other measures.

In regard to the use of galvanism, as suggested by Dr. Valentine, he had not had any experience with it. Dr. Greene's treatment with the iodide of lead he thought he had used, and in some cases it might prove beneficial. The main point of his paper was to bring out the evidence presented from the tabulation of cases, which evidence might be controverted by other cases reported or by later investigation; but he considered it sufficiently striking to present for discussion.

Selections.

GENITO-URINARY DISEASES.

Tuberculosis of the Vesiculæ Seminales, Testes and Prostate; Complete Excision of the Right Side; Incision and Curetting on Left Side; Cured.

—By GEORGE WALKER, M.D. (*Maryland Medical Journal*, p. 55, February, 1901).

Walker reports an interesting case of tuberculosis of the seminal vesicles, testes and prostate; and in speaking of the results of operative interference, declares that the immediate and remote results of these operations have not been good, the high mortality and the subsequent recurrence of the disease destroying the value of a few so-called successful cases. The case reported was that of a man, twenty-seven years old, none of whose ancestors had been afflicted with tuberculosis or other hereditary disease. Had specific infection five years ago, which yielded to treatment after six weeks, and gave no signs since. Three years ago, after running a short distance, felt pain in lower right abdomen; next night right testis swelled, with severe pain and tenderness. It attained the size of a small orange, but lost its pain and tenderness after ten days' rest in bed; after six months it had returned to its normal size. Three months later it became hard, swollen and tender, and after another month a softened area was found, which ruptured and discharged thin, serous pus. The sinus healed and reopened at intervals, several times. The other testicle gave no pain at any time.

The examination revealed the whole epididymis hard and indurated, soft and fluctuating in the center, the testicle proper softer than normal, and fluctuating in some places. The same induration was found in the vesicle and ejaculatory ducts, and also enters the prostate. Both sides were thus involved.

Operation was advised. The right inguinal region was incised, exposing the cord, the testicle was pulled up, and with it the adherent diseased tissue, which was entirely excised. The cord was followed down, bladder pushed inward and upward, and the seminal vesicles exposed. Peritoneum was opened twice, and immediately closed. Patient was then put in the Trendelenburg position, and the peritoneum opened in the median line. The vesicle was then brought into view and excised. One-third of the prostate, connected with the vesicle, was also removed.

The left vesicle was incised and curetted. The left testicle was incised, and found to be the seat of an abscess containing a thick, creamy, yellow pus, in which were large quantities of cheesy material. The epididymis was practically obliterated, the organ much infiltrated. The diseased area was thoroughly curetted, touched with pure carbolic acid, and the whole packed with iodoform gauze.

After four weeks patient was up and about, and six months later was apparently perfectly well.

Pathological and microscopical examination after the operation revealed a distinct and typical tuberculous process. No bacilli were found.

The writer emphasizes the combination of the inguinal and the perineal incisions in cases where complete excision is attempted. This allows much better room, permits a more careful dissection, and permits perineal drainage.

The result of this one case proves little, but it adds some evidence in favor of conservative surgery.

A. L. W.

Diagnosis of Tumor of the Testicle.—By E. DUPLAY, (*Centralbl. f. Chir.*, No. 48, 1900).

The diagnosis between chronic vaginalitis and neoplasms is often very difficult. At certain stages there are no differential signs. Often operation alone can settle the diagnosis. Enlargement of the lymphatic glands and ulceration make the diagnosis easy. Castration is contraindicated in malignant testicular tumors, when lymph-gland metastases exist, or when both testes are involved, especially in young subjects. Castration should be tried if metastases have not yet occurred.

A. L. W.

Treatment of Prostatic Hypertrophy.—By PARKER SYMS, M.D. (*Journal of the American Medical Association*, July 12, 1901).

Syms declares that of all the procedures that have been tried and suggested for the operative relief of prostatic hypertrophy, only two, some form of prostatectomy and the Bottini operation, are deserving of favor.

With the Bottini operation he has had no experience, but will investigate its claims and try it for himself.

He has been gratified with the results of prostatectomy, and states that when it can be performed properly and safely, it results in an absolute cure, and that this cannot be said for any other method. The proper time to do the operation is before great damage has been done to the bladder, urethra and kidneys; in other words, as soon as catheter life becomes a necessity.

He operates through the perineum, without making any wound above the pubis. With a thin abdominal wall he was able in one case to crowd the prostate down by manual pressure into the perineal wound; he has devised a special retractor for this operation, which he used in another case. It consists of a rubber tube of the size and consistence of the ordinary perineal drainage-tube, on the end of which is cemented a thin rubber bulb; the bulbous end is inserted into the bladder through the membranous urethra, which has been opened, as after Alexander; the bulb is then dilated by being filled with water, its diameter then being $2\frac{1}{2}$ inches; by traction the prostate is brought into the perineal wound, within reach of the finger, enabling the operator to perforate the capsule and remove the gland. The straight median incision is used by preference. Suprapubic cystotomy is altogether unnecessary in this operation.

Statistics or other data are not given.

A. L. W.

Report of a Case of Encysted Peri-Urethral Gravel.—By WM. E. HUGER, M.D. (*Maryland Medical Journal*, p. 490, October, 1900).

Huger reports the case of a man of seventy, who complained of urinary retention. In previous years had gonorrhea, followed by stricture.

A few days before observation, while voiding urine, the patient felt sensation of something hard passing from bladder into and along the urethra.

It stopped suddenly, with some pain, and immediately blocked the stream. Almost complete retention followed. External palpation of the perineal urethra showed a hard mass, about the size of a pecan nut, at the end of an inserted catheter, and behind this an indurated urethra, which gave a grating sensation like sand along the finger drawn over it. A diagnosis of obstructed urethral calculus, with many smaller gravel behind it, was made. Several methods for dislodging the larger stone failed, and operation was then performed. A 23 F. sound was passed into the urethra, but stopped at the same point as before, and the same grating sensation was felt, though there was no click on contact with the obstruction.

External urethrotomy was done under 1-per-cent. eucaïn anesthesia. For a short distance in front of, and behind, the bulbo-membraneous junction the lumen would only admit a No. 12 F. sound. The lumen was enlarged, and no stone was found in the urethra proper; but below, and to the right, bulging into the lumen of the urethra, was an oval mass, about $2\frac{1}{2}$ cm. long by 2 cm. thick. This proved to be a collection of encysted phosphatic gravel the size of buck-shot, and surrounded by dense fibrous tissue, causing considerable encroachment on the urethral canal. No connection with the urethra could be found. This mass of encysted extra-urethral gravel, by bulging into the urethra, had aided in detaining a small calculus on its way from the bladder to the meatus.

A Case of Suppression of Urine Apparently Due to *Ascaris Lumbricoides*.

—By FRANK VANDER BOGERT, M.D. (*Archives of Pediatrics*, p. 746, October, 1900).

Bogert reports a case of a female child, five years of age, admitted to a hospital, with a history of not having passed her urine for nineteen hours. The child had always had intestinal troubles and some difficulty in urination. Four days before admission to the hospital she had severe pain in the abdomen, which caused her to lie with thighs flexed. She became constipated, and the abdomen was tender to pressure. No history of vomiting, nor were there symptoms referable to suppression of the urine. Examination negative; bladder was apparently empty and abdomen not distended. Soon after admission she passed urine for the first time in nineteen hours. In the two weeks following her admission the daily amount of urine voided never exceeded nine ounces, and only twice did it reach that amount. On the fifteenth day it increased suddenly to thirteen ounces, and on the same evening a round worm, 27 cm. in length, was passed by the bowels. From that time on she passed a daily average of fifteen ounces, with much lost.

Lumbricoid eggs were found in the stools on the seventeenth day of her stay in the hospital, and eggs of the *Tricocephalus Dispar*, on the twenty-first day. Thereafter she was given calomel and santonin for three successive nights, but no more worms were passed. She left the hospital in good condition, and was passing a fair amount of urine.

A. L. W.

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Original Communications.

THERAPEUTIC NOTES ON SULPHUR CREAM, GOOSE GREASE, AND CRUDE PETROLEUM.

BY GEORGE THOMAS JACKSON, M.D.,

Instructor in Dermatology in the Medical Department of Columbia University,
New York.

EACH one of us has some pet formulathat he uses habitually in certain cases, but about which he says or writes little if anything, not because he desires to keep it secret, but that he does not think it worth while to bring it to the attention of his fellow workers. This seems to me to be a mistake. Surely we all wish to know of anything that will help us cure our patients, and anything that any member of this Association has found useful can not fail of being of great interest to all of us. For a long time I have though that it would be extremely profitable to us if we devoted a portion of our time at these meetings to an informal interchange of personal experiences in matters of treatment. It seems to me that it would be time better spent than in listening to the reading of valuable papers that require quiet study to digest and assimilate. Acting on this belief I now venture to say a few words to you about sulphur cream, goose grease, and crude petroleum.

Sulphur cream, or as I write for it, *Unguentum petrolati co.*, is a preparation made for me years ago by my druggists, Daggett & Ramsdell. I was in need of an elegant sulphur ointment for use in the

* Read before the American Dermatological Association May 31, 1901.

treatment of dandruf, and this my druggists have well supplied. Its formula is:

White wax.....	5iijss
Oleum petrolati.....	5iiss
Rose water.....	5i
Biborate of soda.....	gr. xv
Sulphur, precipitated.....	5iijss.

We know that the formula of cold cream is published in the pharmacopœia and that the product as turned out by different makers is by no means the same. So it is with sulphur cream. I have seen many results of the efforts of other druggists to make this article, but they were not the same as that made by Mr. Daggett, who makes it all himself. As you see it is an elegant, smooth, white preparation without sulphur odor. I commend it to you most highly where you wish to use a sulphur ointment. It keeps perfectly, does not separate, and is as perfect as an ointment can be. I have tried on my own scalp all sorts of lotions in the treatment of a seborrheal dermatitis, and invariably come back to my sulphur cream with pleasure and profit. Used once or twice a week it keeps my scalp comfortable, does not make the hair too greasy when properly applied, and checks the dandruff.

Of more recent use by me is *goose grease* as an excipient. From time to time I have dropped a hint of my high opinion of it. Now I want to ask you to give it a trial. Thus far my experience with it has been in the treatment of ringworm of all kinds. For this purpose I use half a dram to a dram of the crystals of iodine rubbed up in an ounce of goose grease, and direct that the ointment be thoroughly worked into the patches by means of a stencil or stiff paint brush. I have watched the very satisfactory effect of this treatment in many cases. Its action in curing ringworm of the beard has been especially brilliant because Dr. Dade, one of our assistants at the Vanderbilt clinic, makes the applications himself. He tells me that he finds that, under the microscope, hairs show staining with the iodine down to the bottom of their roots. On the scalp of a child it does not seem to be very irritating, and the patches get well.

I am sorry that I can not support my statements by statistics. I no longer conduct the treatment of dispensary cases, as my time is taken up with the teaching of the students. But I feel so sure that the treatment is a good one that I ask you to try it. I should be glad if one year from now some of you will make reports upon your experiences.

The greatest difficulty in the way of using goose grease is in getting

it. I am afraid that much that is supplied by manufacturing concerns under the name of goose grease never saw a goose. The best quality of the article is very expensive as it is made from the fat taken from the dead but uncooked goose. Of course when you rob a goose of its fat you have spoiled it for cooking, and so a few ounces of fat costs as much as the whole goose. I am assured by the Schieffelin Company, from whom has been obtained the goose grease I have used, that the article is genuine. Some perfume may be added to it to make it pleasant to use.

From time to time such wonderful tales of the hair growing powers of *crude petroleum* came to my ears that I determined to try it for myself. The disagreeableness of the crude oil deterred me for a long time from making the trial. By experiment I found that by using one part of good cologne water and two parts of crude oil a not very objection-mixture was made. I also found that one specimen of crude oil differed from another one in disagreeableness, and that one could be found not quite so bad as the rest. I succeeded in finding about thirty patients with different sorts of baldness who were willing to use this not very seductive remedy. Some of them stuck to the trial for from three to seven months, putting it on faithfully and rubbing it in once or twice a day. The result was a uniform one, a flat failure in each and every case. After this experience I have made no further trial of crude petroleum excepting in the destruction of lice. It is remarkable how wonderful some remedies are in the hands of laymen, and how worthless in the hands of a physician!

A MODIFICATION OF COCK'S METHOD OF PERFORMING EXTERNAL URETHROTOMY WITHOUT A GUIDE.

BY PERCY R. BOLTON, M.D.,
New York.

EXTERNAL perineal urethrotomy performed with a guide in the urethra is an operation of the greatest simplicity; but where the use of the guide becomes impossible as in impermeable stricture or complex division of the urethra the operation becomes one which is very often tedious and difficult. The difficulty consists in discovering the urethral canal posterior to its point of stricture or division.

Several plans are available for this purpose.

1. Retrocathetherization. This consists in exposure of the internal meatus through a suprapubic incision of the bladder and the passage of a sound through the prostatic urethra to the perineal wound. This method is certain in its results, and at times must be employed, but it implies extra mutilation and adds something in the way of danger and complicates and prolongs after treatment; so that in general it should be held in reserve as a last resource.

2. The Wheelhouse operation. This consists in exposure of the anterior face of the stricture through an incision of the urethra immediately in front of it, the introduction of a filiform or probe through the stricture under the direction of the eye and the completion of the operation with the guide in place.

Unfortunately this method is of limited applicability; it can be used in stricture only and in such as still allow the passage of urine; but even in these cases it frequently cannot be carried out owing to the difficulty of recognizing the orifice of the stricture in consequence of the deep seated position of many urethra, the laceration of the urethral mucous membrane anterior to the stricture by previous attempts at the introduction of filiforms and the rapid infiltration and staining of the mucous membrane by blood.

3. The Cock operation has a wider field of application than the Wheelhouse and may be employed in either impermeable stricture or division of the urethra even in the presence of urinary extravasation.

The position of the apex of the prostrate is determined through the rectal wall, and with the finger upon this point the knife is thrust into the middle line of the perineum and carried upward toward the apex of the prostate until the junction of the prostatic and membranous portions of the urethra is entered. The external wound is then enlarged and the division of the stricture completed.

Puncture of the urethra at the apex of the prostate is greatly facilitated by the dilatation or distention of the canal immediately behind its point of stenosis, for not only is the target aimed at thus enlarged, but the escape of the urine alongside the knife is the sure index of success, without which the surgeon cannot always be certain that his object has been attained. Distention of the urethra is not invariably present in stricture and is not likely to be in case of rupture where no obstacle is opposed to the escape of urine into the tissues of the perineum.

The ease with which the prostate can be exposed through transverse incisions of the perineum, together with the facts just mentioned, has lead me to propose a method of procedure in the performance of external urethrotomy without a guide whose principles are the same as

those underlying the Cock operation but whose details differ materially.

The patient may be placed in the lithotomy or knee chest position.

A curvilinear transverse incision is made across the perineum, the convexity looking forward or backward and the tendinous center of the perineum exposed.

The attachment of the sphincter ani to this point is divided and reflected and the triangular ligament thus exposed incised transversely. The anterior fibers of the levator ani passing beneath the prostate to the rectum now come into view. These together with the rectum are next pushed backward and the prostate exposed.

The exposed surface of the prostate is now cleaned and its apex identified.

No harm can accrue from incision into the floor of the prostatic urethra anterior to the verumontanum, and incision made into this part of the prostate is sure to enter the urethra behind its point of stricture.

The anterior quarter inch of the apex of the prostate is accordingly incised longitudinally in the median line, the urethra opened and the incision then prolonged forward as far as desired, guided, if necessary, by a probe or director suitably bent and introduced into the urethra from behind forward.

This method, while a little more elaborate than the original Cock operation, appeals to me as rational and not necessarily difficult.

It will be found most useful, I believe, in recent ruptures of the urethra and in strictures uncomplicated by extravation of urine, or perineal abscesses.

I should hesitate to make use of it in the presence of infectious inflammations or necrosis of the perineal tissues because of the larger wound surface unavoidably exposed to infection and the risk of carrying infection to the cellular tissue between the rectum and bladder above the triangular ligaments.

CASE OF PROSTATECTOMY.

BY JAMES BELL, M.D.,
Montreal.

JOHN BROWN, aged seventy-two, admitted to Royal Victoria Hospital, February 16, 1901, complained of pains in the region of the bladder and penis: great frequency of micturition, difficulty starting the stream, dribbling after urinating, and backache.

About ten years ago patient began to notice that he had to void urine more frequently than he had been accustomed to. He had to get up once or twice at night, and had a constant feeling of weight in the bladder and perineum, and a burning pain in the penis when voiding urine. There was marked urgency at the same time. He had not observed anything regarding the projectile force of his stream. There was some slight difficulty in starting, with dribbling at the end of the act.

At this time a catheter was used, and the bladder washed out by his physician, and after about three weeks' treatment he felt much easier. He continued to feel fairly well, not requiring the use of the catheter until July, 1900, when the same condition occurred again, after an exposure to wet and rough weather. He went to a physician and again the catheter was used and relieved him. He cannot tell whether there was residual urine at either of these times when the catheter was used, or not.

In November, 1900, he grew worse again; had a chill, and aching pains in the joints. He has been troubled ever since, and especially with the difficulty in starting the stream, which has increased much of late. He has never noticed any blood in the urine, but at times it has been quite turbid. He has never suffered from retention, nor has he had sudden stoppages of the stream.

In November, 1900, his physician told him that the urine contained much pus. At the present time he has a constant aching pain at the root of the penis, which is greatly aggravated by the straining necessary to evacuate the urine. He has always enjoyed good health, with the exception of an attack of pneumonia thirty-six years ago, from which he recovered perfectly, and an attack of mumps fifty years ago, with intercurrent left orchitis, causing complete atrophy of the testicle.

He is a shoemaker, of good family history, and a well-preserved

man for his years, with sound organs, with the exception of some appreciable thickening of his superficial arteries and a light albuminuria.

On examination he was found to have very slight projectile force, small dribbling stream; left testicle completely atrophied, urethra in prostatic portion greatly lengthened; residual urine, four ounces; no evidence of stone; rectal examination shows a moderately and apparently uniformly enlarged prostate; urine acid, rather pale, and turbid; shows a well-marked ring of albumin, with nitric acid; no sugar; considerable number of pus cells, and a few hyaline casts; frequent micturition—seventeen times in twenty-four hours; total quantity varied from 17 to 21 ounces; no tubercle bacilli in sediment.

Patient, who was a restless and impatient man, was advised to choose between two alternative methods of treatment: First, catheterization night and morning, or suprapubic cystotomy for exploration, and such subsequent operative procedure as might be found necessary. He would not entertain any suggestion of operation, and returned to his home on the 21st of February, having been instructed in the use of the soft catheter.

On the 28th of February he returned. He had used the catheter twice daily since leaving the hospital; but had not found any improvement, and suffered greatly; the urine was as before, but with no casts to be found.

On the 2d of March patient was anesthetized with ether, and the bladder was opened above the pubes and illuminated by electric light. The only abnormality discovered was the projection into the bladder, and over towards the right of the left portion of the prostate, more anteriorly than posteriorly. This raised the urethral orifice slightly from the line of the posterior bladder wall, and pushed it very markedly towards the right. Exploration with the finger in the ureteral orifice made it quite clear that there was special enlargement of this portion of the prostate, which was quite distinct from the other portions. The mucous membrane was incised, and the mass enucleated. The mass, was of the usual fibro-adenomatous character of such growths, and weighed, after having been preserved in formalin solution, 17 grams.

When removed it was about the size of a very large hen's egg. The bleeding was not troublesome. The cavity was packed with iodoform gauze, and a tube was carried down to the fundus of the bladder through the suprapubic incision. A soft rubber catheter was also passed per urethram.

March 6th.—Catheter, gauze and drainage-tube removed, and discontinued. Patient never had a bad symptom; by the 3d of April

about half the urine came by urethra, and the suprapubic wound was closing rapidly. The urine was clear, acid and contained a few pus cells microscopically. The bladder was irrigated daily through a soft catheter.

April 7th.—Leakage through suprapubic wound has practically ceased. Patient has no difficulty in voiding urine; the stream is large, easily started, and not followed by dribbling. There is no frequency of micturition, and pain has disappeared entirely.

April 9th.—There is, as shown by tests on several occasions, no residual urine, and patient declares that he has not felt so well in his urinary organs for twenty-five years.

April 11th.—Discharged feeling perfectly well; a little superficial granulation spot still remains at the site of suprapubic wound.

This case presents two or three points of special interest: *First*, the atrophy of the left testicle fifty years before operation, and the demonstration at the time of operation that practically the whole of the prostatic enlargement—at least such as was pathological—was in the left side of the prostate gland; *second*, the perfect restoration of function, which has not been usual, at least in my personal experience, of prostatectomy; *third*, the peculiar kind of prostatic enlargement in this case demonstrates something of the uncertainty which must always be an objection to the Bottini operation, which is now so much in vogue. Of the usual Bottini incisions made into the prostate, only one, that on the left side, could have had any effect upon the enlarged portion of the prostate.

MULTIPLE NODULAR MELANOCARCINOMA OF THE
SKIN FROM A NÆVUS.

BY A. RAVOGLI, M.D.,
Cincinnati.

THE patient is a lady, thirty-three years of age, whose parents are both living; the father is eighty years old and the mother sixty-nine; have both enjoyed splendid health. The lady affected with this disease is a woman of splendid physique, good clear complexion, brown chestnut hair and brown iris. She has been married for seven years, has two healthy children, and while inquiring about her previous health she said that she never remembers having been sick a day in her life.

Since her birth she has had a dark, pigmented nævus the size of a twenty-five cent piece in the center of the lowest part of the sternal region, which from her description seems to have been a form of nævus verrucosus. This nævus had always remained there without causing her any trouble. At the age of thirty-one, two years ago, when pregnant with her second child, the nævus began to grow somewhat, and she began to feel the place tender. Gradually it ulcerated in the middle and bled at times. Six months later several black round spots began to appear around the original nævus, increasing the size of the first. At this time she consulted a physician, who advised her to have the whole spot removed. In June, 1900, the operation was performed, leaving a raw surface, which took a long time to cicatrize, and which is still very tender and painful to contact. Two months later small dark-brown nodules the size of a pinhead began to develop around the cicatrix of the original nævus, and in a few months successive eruptions of black nodules kept coming, partly coalescing, forming the peculiar spot shown by the photograph, Fig. 1.

The young nodules are soft, elastic and shiny, rather consistent, the size of a pinhead, of dark-brown color; they gradually grow to the size of a hempseed or larger, assuming a black color, then gradually fade, and the black epidermis is somewhat wrinkled, remaining this way, and permanently grouping themselves with the others constituting the black spot. So far there is no swelling, no tendency to ulceration. The subjective symptoms consist in a disagreeable, painful itching sensation, which she claims cannot be stopped, and the

patient says it makes her nervous. This sensation prevents her from sleeping, and causes her to lose her embonpoint somewhat.

There was no doubt that the affection is a growth developed from the nævus, but it was necessary to have the proof of it in the anatomopathological observations. One of the nodules was excised, treated in

FIG. I.

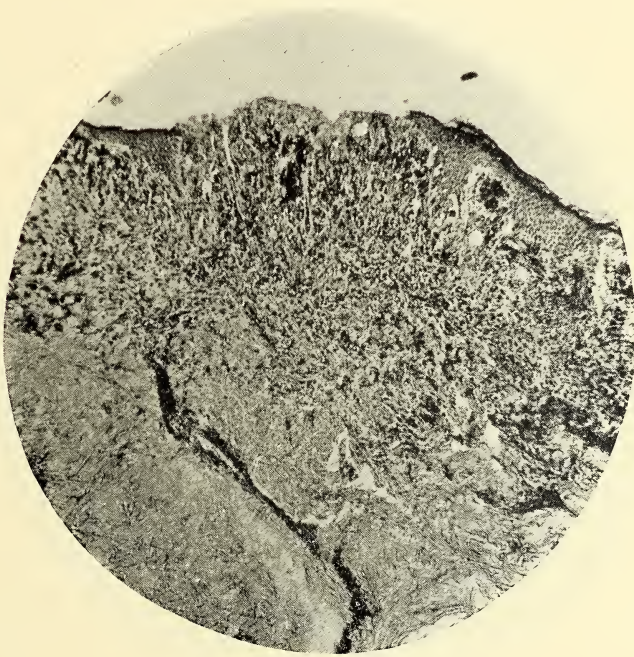


2 per cent. formaline, then hardened in alcohol, imbedded in celloidin, and then cut in sections, for which I tender my thanks to Dr. M. L. Heidingsfeld, my assistant. It was stained in hematoxylin, eosine, Van Gieson, orcein and polychrome methylene blue.

FIG. II.—*Ocul.* No. 1, Object $\frac{3}{4}$ B. & L.)—Epidermis, the horny layer, consisting of non-nucleated cells and also rete, are absent in the center of the growth; in the surrounding part it seems somewhat thinner than in the normal skin. With a stronger power we see the

stratum corneum formed by (Fig. III.) several layers of unnucleated cells, containing between them granules of dark pigment. The quantity of pigment is largely increased in the stratum lucidum, which appears like a black line, preventing one from seeing the cellular forms. The stratum granulosum is well marked and the stratum spinosum in some places is scarcely perceptible; indeed, in the tip of the nodule the rete projections between the papillæ cannot be seen. With a stronger power the rete projections are changed into a kind of yellow granular

FIG. 2.



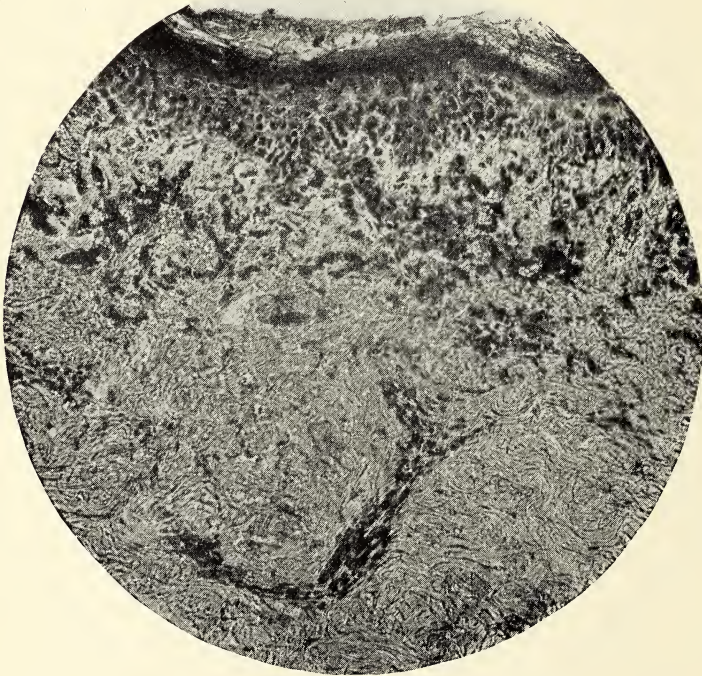
substance occupying the spaces between the affected papillæ. No line of demarcation exists between the epidermis and the pigment, which in the form of large brown granules is grouped about in the nuclei of the epithelial cells, coloring them a dark brown.

The papillæ are greatly enlarged, have changed their size and shape, and the connective tissue forming them is in an edematous and hypertrophic condition. They are converted into a kind of spongy appearance on account of alveolar structure, containing dark-brown epithelioid cells in their midst. In the subpapillary layer we find the pigment abundantly distributed in different directions.

This is the point where the capillary blood-vessels form the superficial vascular net of the peripheral circulation, distributing vessels to the papillæ, and here it seems that the pigment chiefly finds its origin.

In some specimens the interpapillary appendages, where they are still intact, descend between the elongated and enlarged papillæ, in some places they remain separated from the connective tissues, and in other places they are mingled with those tissues, giving the characteristic appearance of the superficial epithelioma. In superficial epithe-

FIG. 3.

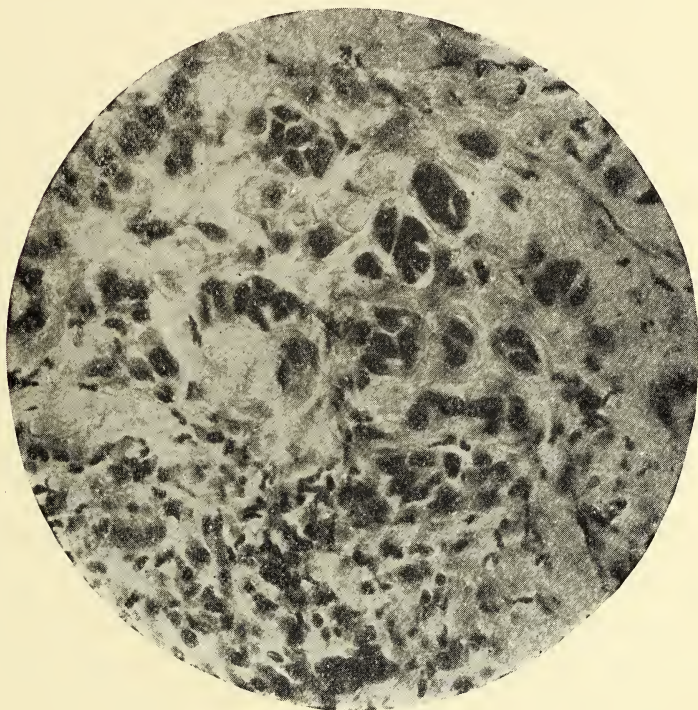


lioma masses of epidermic cells from the rete are detached, and penetrate between the papillæ and the connective tissues to the subpapillary layer without any line of demarcation. In our present case the epithelial cells and the pigmented epithelioid cells which infiltrate the connective tissues of the papillæ seem to have the same origin, also somewhat different in appearance from those which we find in the ordinary superficial cancer of the skin.

FIG. IV.—On studying the specimens under a stronger power ($\frac{1}{12}$, immersion) we see plainly the carcinomatous stricture, the con-

nective tissue bundles enlarged, edematous and hypertrophic, are penetrated by large, pigmented, dark-brown round or cylindrical epithelioid cells, with large nuclei, which are imbedded in small nests in the number of from two to six and more. This gives the appearance of the small alveolar carcinoma, as described by Unna. We find also parts of the covering epithelium which apparently are changed into epithelial nests; the epithelial cells have lost their prickles, more closely

FIG. 4.



resembling the cells of granular epithelium. They are greatly enlarged, and show a tendency to mitosis. The cells have a smooth appearance, and in some places are crowded together, while in others they appear to be loose.

The melanotic pigment, which in the naevus only occurs in the epidermic cover, and does not enter the connective tissue, begins to increase, and is spread in masses of free brown granules, or contained in the cells. The epithelial cells of the growth are greatly swollen, these free cells grow and proliferate in every direction, and fill the spaces of the capillary blood-vessels, separated by very few connective

fibers. Fig. II. shows clearly this condition in the corium where, between the connective tissue, a blood-vessel runs through entirely surrounded with black pigmented cells. These cells do not come from the endothelium of the blood-vessel, which is perfectly free, but are lying on the adventitia, crowding the blood-vessel in all its course. Another accumulation of epithelioid pigmented cells like that in the subpapillary layer is found in the deep corium, just where the deep blood-vessels are distributed to supply with nutrition the glands and the different organs of the skin. This appears also clearer in the transverse cuts of the blood-vessels, which show the intima free, and large pigmented cells lying around their adventitia. The blood-vessels show that they are somewhat enlarged. The epithelial cells of the granular layer are in many places well separated from the connective tissues of the papillæ. But in some places we find that epithelial cells have lost their regular arrangement, and they come down deeply into the papillæ, and some groups of cells, it seems, have been surrounded by the connective tissue fibers, remaining as a nest separated from the others.

The masses of pigment are disposed irregularly between the connective tissue, in the places where the blood vessels are most abundant. This shows that the pigment is supplied by the blood and left free in the tissues. The pigment consists of small granules of a yellow brown color grouped together. In places it is found free, but as a general rule it is absorbed by the epithelioid cells, which appear dark and sometimes black. Around the alveoli of the carcinoma we find many round cells, small leucocytes infiltrating the stroma, showing a certain degree of exudation, caused by the irritation of the epithelial cells and of the masses of pigment.

In specimens stained with orcein the pigment is much more apparent, of a dark-brown color in lumps of round or cubic shape, contained in the cells, and also free. The elastic fibers show very distinctly in the lower layers of the corium, but where the carcinomatous infiltration is more apparent the elastic fibers are somewhat thinner, and have a tendency to disappear. I have compared some specimens of vitiligo taken from the dark places of pigmented skin, and I have found the pigment in the cells of the stratum granulosum forming an equal and regular layer. The pigmented cells remain limited, neatly circumscribed, and never touch the connective tissue of the papillæ and never descend between them.

Another feature which has been lately pointed out is the existence of some round bodies, which in this case are black as coal, and are called chromatophores. In the illustration (Fig. IV.) a few of these

bodies can be seen scattered and alone in the field in the middle of the tissues, surrounded by an accumulation of pigment. In my case, however, I believe them to be nothing more than nuclei in the middle of a large cell, which is absorbing the pigment in its protoplasm. These bodies are more apparent around the blood-vessels in the outside of their walls. To these has been attributed a great rôle, in the production of the growth, by Robert,¹ and especially by Alfred Schalek,² who, following the ideas of Jacques Loeb, maintained that the new growth starts from pigment extravasated into the connective tissue, whose cells become chromatophores and from which the tumor takes its origin.

I think that at present it is somewhat too soon to consider these bodies as the factors of the growth when they are no more than nuclei in the middle of a cell. They have some similarity with those round bodies which have been described as protozoa, and to which has been attributed the production of the carcinoma. Unna and Boeck have objected to this theory, and have considered them to be nothing but the result of epithelial cells in hyaline degeneration.

The question here is whether these growths are to be considered of carcinomatous or of sarcomatous nature. Indeed, until recently melanotic growths proceeding from nævi have been considered as sarcoma on their identity with the sarcomatous tumors arising from the choroid of the eye, and also from the belief that the nævi from which the tumor has its origin consists of connective tissue. Funk³ described these tumors as melanosarcoma, and gave great importance to a continued irritation or trauma in their production. Von Recklinghausen asserted that pigmented melanosarcomata arising from nævi originated from the endothelia of the lymph vessels and clefts.

Entirely different views were expressed by Unna,⁴ who claimed that the so-called melanosarcomata of the skin had not their origin from the connective tissues or from endothelial cells, but from the epithelial cells of the rete layer of the epidermis, which remained surrounded by connective tissues. Unna therefore had the name of those tumors changed from melanosarcoma to that of melanocarcinomata. This argument rested on the tendency of the epidermic cells to enter the connective tissue alveoli, *metaplasia*, and on the absence of intercellular substance. He admits that sometimes in a nævus the pigment may be scattered amongst the connective tissue before any epithelial proliferation takes place.

The doctrine expounded by Unna was opposed by Green⁵ and Bauer,⁶ who were unable to confirm his observations, but it was accepted by many observers, among them Krohmayer,⁷ Delbanco,⁸

Scheuber, and also Fordyce,⁹ Gilchrist,¹⁰ Schalek,¹¹ and Max Joseph.¹²

It seems that the excessive increase in pigment masses is in relation with the proliferation of the epithelium, as is shown in our specimens, where clumps of pigment are found in the corium. Dr. Young has presented a case where carcinoma had originated in a pigmented mole, as reported by Gilchrist, and pigment granules were found accumulated between the connective tissue fibers of the corium.

These peculiar affections have their origin usually in flat pigmented nævi, which are more dangerous when they have a tendency to growth in the form of nævus verrucosus. The stroma results from melanotic epithelium accumulated in an alveolar structure. The pigment spread free into the meshes of the tissues has the property of causing epithelial accumulations, and the more the nævus is pigmented the more dangerous it is for the production of growths with malignant qualities.

Unna¹³ refers to the theory of Cohnheim, who maintained that rows of cells which make up the soft nævi are true epithelium, which either in the embryo or in early youth have been detached, forming the nucleus and the starting point of the carcinoma. This strengthens the assertion that physiological cells out of their place in normal tissues are the cause of the carcinoma.

We must also allow some part to the lack of resistance of the cement substance, which allows the infiltration of those cells, and causes the spreading of the carcinoma. Unna has held that in the nævus an epithelial tissue which, in embryonic life or in early youth, has been concealed in the connective tissue as a seed for later development. And late in life we see that its latent germinal property has started, and from a potentiality it is changed into an actual irritative cause, which leads to the production of a malignant growth. In our case we find that the followers of the parasitic theory of cancer may find some difficulty in explaining the development of the growth without the presence of the peculiar germ, which later will change the nævus into a carcinomatous mass. In this case we see clearly that the nævus has taken a malignant character in consequence of an irritation maintained upon it on account of the rubbing of the garments. The presence of the pigment, which is entirely inoffensive when in its normal limits, if left free in the connective tissues becomes the factor of the melanotic cancerous growth. The epithelial masses usually come from the rete and insert themselves in small or large groups in the connective tissues of the superficial corium. The abundant masses of pigment which constitute the nævus, contribute to the formation of the melanotic carcinoma. A mechanical irritation continued for a long time on the nævus may easily change the disposition of the groups of the

epithelial cells, open the connective tissue alveoli to their invasion, and in consequence of the compression, edema from stasis results. This sometimes is the cause of degeneration of the cells, which are enclosed in the alveoli, at other times it opens the way to the intrusion of a larger quantity of epithelial cells, causing the proliferation and the increase of the growth.

Unna has referred to four cases of nævocarcinomata of the skin, of which two were primary and two metastatic, and in all he had found alveolar structure, and the same relation between the epithelial cells and the pigment. His observations are entirely in accordance with my anatomico-pathological results, and it is for this reason that I have named my case a melanocarcinoma from the nævus. I cannot deny that clinically the growth looked to me to be of a sarcomatous nature, but after the histological study the carcinomatous structure was too apparent, confirming the views and the doctrine of Unna on this important subject.

From the results of my observations I believe that the pigment crowded in the epidermic layers of the nævus in consequence of irritation or of a trauma, having diminished the resistance of the cement substance, is set free in the connective tissue. Its presence as an abnormal stimulus causes epithelial cells to proliferate and extend their appendages deeper in the interpapillary spaces and in the cutis. These epithelial cells free and, wandering, absorb the free pigment, and lodge themselves among the fibers, which by natural reaction close themselves around the cells, forming in this way the alveolar structure. Finally, the free pigment taken by the blood or lymph vessels is carried by them into other parts, where its presence is capable of reproducing the same process and subsequently the same growth per metastasis.

The subject of our study is still well as to her general health, but the prognosis concerning the growth is pessimistic.

In reference to the treatment, I have given large doses of a solution of arseniate of potash, Fowler, and also intramuscular injections with a 10 per cent. solution of cacodylic acid (Arsen diamethyl). Locally, there is no application with the exception of a pad to protect the growth from any external injury in order to prevent ulceration. The destruction of the growth had been already tried, with the result that many other carcinomatous nodules have grown around the scar. The nodules are spreading fast, every few days new nodules are appearing, increasing the black carcinomatous surface. From my experience I consider this case to be referred to that kind of affection called in antiquity *noli me tangere*.

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Society Transactions.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Wednesday Evening, December 19, 1900.

W. K. OTIS, M.D., Chairman.

ORDER.

1. Presentation and Report of Cases.

A. Two Cases of Fibrous Plaque of the Corpora Cavernosa.—DR. J. VAN DER POEL.

B. Case Presenting a Prostatic Cavity filled with Calculi.—DR. EUGENE FULLER.

C. Case Showing Interesting Complications from Calculus Formation. Secondary to Prostatic Hypertrophy.—DR. EUGENE FULLER.

D. Nephrectomy for Carcinoma.—DR. GEORGE E. BREWER.

E. Nephrectomy and Excision of Seminal Vesicles for Tuberculosis.—DR. JOSEPH A. BLAKE.

Two Cases of Fibrous Plaque of the Corpora Cavernosa.

DR. JOHN VAN DER POEL presented two cases of fibrous plaques of the corpora cavernosa.

The first case somewhat resembled a case shown for the speaker by Dr. Otis, some months since, and gives the following history:

Age thirty-six, married, denies syphilis. Has had gonorrhea twice, last in 1891. No history of traumatism. No history of stricture. No family history of gout.

First noticed the trouble some three years ago, when it was about the size of a bird shot. Since then it has gradually increased up to its present size, although during the past six months the growth has been very slow, if any.

At the time of its appearance the patient was laid up for four months with rheumatism.

Upon examination both corpora cavernosa seem to be about equally involved, about two ctm. posterior to the glans, with a small, irregular, hard sclerotic, and not tender or painful mass, about the size of a large pea, with boundaries not well defined. During erection the penis is bent slightly upward, accompanied by very slight pain, which is also present during coitus.

The non-syphilitic history of the patient, and the history of rheumatism at the time of its appearance, leads one to think again more strongly of the opinion expressed by Scotch writers, who first—I think—called attention to this trouble, that they were all more or less intimately connected with a rheumatic or gouty diathesis, although we now know that they do not all give this history, and that many patients give a syphilitic history, though unaffected by anti-syphilitic treatment, *i.e.*, iodide of potassium in large doses, combined with mercurial inunctions.

Although this patient leans toward an operation—and this course has been advised by some surgeons who have seen him—the speaker, however, discouraged such a course, in view of the slight inconvenience at the present time, in view of the mass being deeply seated, and in view of the deformity which would almost inevitably result, at present there being practically none.

The speaker also presented the patient shown nearly a year ago, who was at that time the same age as the man just shown, *i.e.*, thirty-six. This patient has had syphilis. At that time the plaque had existed already three and one-half months, was about two ctm. square, and less than one-half ctm. thick, about two ctm. posterior to the corona of the glans, having the saddle shape so often seen in these cases. He has since that time been treated with iodide of potassium, as high as 300 drops a day, but he disappeared from treatment, and he did not continue this beyond a month. However, there was no result. A rather interesting point is that during two enforced periods of milk diet, for five or six days' duration, he states that the plaque became considerably smaller. The speaker saw him after the first course of milk diet, and found that this was true, as also after the second course. He states that as soon as he begins with a liberal nitrogenous and starchy diet, that the increase in size again is very soon apparent. However this may be, the plaque was undoubtedly smaller when I examined after his first restricted diet than it was before, and is now certainly smaller than it originally was, in a transverse direction.

DISCUSSION ON THE QUESTION OF OPERATION ON DR. VAN DER POEL'S FIRST CASE.

DR. ERDMAN said that at the time one of those cases was shown last year, if his recollection was correct, he cited two cases—one seen with Dr. McGowan,

which was operated on by Dr. McGowan about nine years ago, and in which he was given to understand that the function was very good after the operation; at least he was told his erections were practically without any curve at all.

DR. FULLER said that if you operate on a case like that you want to specially, tell the patient that the chance of giving him a good result in the way of erection is very small; still he has perhaps a 10 per cent. chance. The speaker had seen a case a while ago with two double plaques on either side, very much, he thought, like the younger man's, only a great deal more marked. He wanted the speaker to operate on him. He was a very worrisome sort of a fellow. The speaker had refused to do, it unless the patient would accept the issue; that it probably would not be a very successful result. He wanted to be operated on very much, but he was of such a fussy disposition the speaker thought if he were operated on unsuccessfully he would never cease worrying him. The patient then went to another surgeon in the city, who operated on him with a poor result. The man had now returned to him, sorry he let another surgeon operate. He has no erection and consequently could not accomplish coitus. The speaker was willing to operate on these cases, but in private practice you had to be particular not to promise very much.

DR. FERD. C. VALENTINE said that personally he had had very little experience in these cases. One reported several years ago by Kollmann, of Leipzig, suggests a phase of infiltration not entirely dissimilar in appearance, yet extraordinary in conduct. A small infiltration behind the glans followed the excision of a primary lesion on the prepuce. It grew to the size of a bean, but did not remain stationary, for it traveled towards the scrotum in a few months. Thence it proceeded forward again, dividing into two parts. At this time it disturbed erection, once doubling the penis into a marked right angle. Later on the infiltrate wandered to the peno-scrotal juncture and could be felt there four and a half years after its first appearance. Of course constitutional infection was not prevented by excision of the chancre. In case Dr. Van der Poel should decide to excise the plaque in either of the cases he had shown, he should look forward with pleasure to a report of the microscopic examinations for enlightenment regarding the etiology of these plaques.

DR. BREWER asked if those plaques were supposed to be calcareous?

He said the only reason he asked was in connection with the rheumatic or the gouty theory as to their origin.

The speaker said if it was a calcareous deposit the possibility of the electrical treatment he thought might be considered—not that he knew anything about it himself, but Dr. Morton, of this city, has had remarkable success the last year or two in causing to disappear the calcareous deposits in early gout, when they do not involve the bone itself. It occurred to him that if these were of this origin it might possibly be well to give this method of treatment a trial.

DR. VAN DER POEL said that the cases reported, as far as his memory served him, had been of fibrous character. He could not remember any of a calcareous nature, although this might be. Two cases of endothelioma—one by Mauvier in 1883, and one by Alexander last year, had been reported.

DR. ERDMAN said that in the case he saw with Dr. McGowan the tissue there was decidedly calcareous on microscopical examination. The pathologist said he would have to decalcify it before reporting on the case.

DR. BOLESŁAW LAPOWSKI thought that in the second patient who had had syphilis the question of traumatism might have played a part in the production of the

plaque. During his attacks of gonorrhea he was treated with sounds, the introduction of which on several occasions was followed by hemorrhages.

The same patient gives a history of syphilitic infection. In his opinion the use of mercury in form of inunctions or injections, combined with K. I., is to be resorted to before we can draw any conclusions regarding effects from anti-syphilitic treatment.

DR. VAN DER POEL said that the patient Dr. Lapowski spoke about had had gonorrhea eleven times; in fact, he had had gonorrhea once during the period in which he saw him. He was not sounded excepting for the first three or four inches of his urethra at the time the speaker saw him. He asked him for a history of traumatism, of bleeding. He gave him none.

As regards the diet that Dr. Valentine mentioned, all he could say was simply that he saw the case after he had said he had been on that diet and the plaque was smaller. It was to-night smaller in a transverse direction than it was after he saw it a year ago.

1. Case of Prostatectomy.

2. Case of Urinary Extravasation.

3. Case Presenting a Prostatic Cavity Filled with Calculi.

4. Case Showing Interesting Complications from Calculus Formation Secondary to Prostatic Hypertrophy.

1. Case of Prostatectomy.—DR. FULLER said he would speak first of a case from the City Hospital—a case of prostatectomy the speaker operated on about the middle of October—a man seventy-two years old, who had a very fibrous condition of the prostate. He had had retention a number of times. He had an extremely foul bladder and was in very poor physical condition. He removed the obstruction suprapubically and gave him perineal drainage. He is all right now, urinates perfectly freely and his urine is absolutely sweet and clear. The last time the speaker saw him he could see no evidence of bacteria about it at all. In some of these cases where you get a very fibrous condition he thought you were a little more apt for a time to get dribbling of urine on exercise after the operation. They will hold their urine perfectly well all night, but for a time on walking or exercise they may find that they do not hold it perfectly and may temporarily need a receptacle to catch it in. This man came over here directly from the hospital and he understood from Dr. Stone that he was perfectly dry. His wound had been healed about three weeks, and the last time the speaker saw him he did not complain of any dribbling. He simply mentioned this because it was a good thing in private practice to tell patients that at times and very rarely for a certain period subsequent to operation they would after any exercise lose perhaps a dram or so, especially if they jumped on a car or made similar sudden exertion. A great many times they did not. This man had never had a sound passed in him since the operation, and did not require it. He passes, as you can see, a good free stream and shuts it off well. The result is a good and radical result. The neck of the bladder is not injured, and there will be no contraction and never any difficulty in urination.

2. Case of Urinary Extravasation.—The next patient Dr. Fuller sketched was a man on whom he was called at night to operate upon in an emergency. He had retention, rupture of the urethra from stricture, and extravasation of urine. He did in this instance what he had been in the habit of doing for a long time past in those cases, that is, not trying to do anything in the perineum aside from simply cutting in, and absolutely liber-

ating all the slough, laying the whole thing open and cutting very freely everywhere, slitting up into the buttocks, then leaving the urethra alone. He did not try to do any radical operation on the urethra or to dig around to find the canal. There are no landmarks in the middle of a great deal of sloughing and you have to do much needless dissection in case you try to drain the bladder in that direction. Besides you cannot tell how much tissue is going to live and how much is going to slough. You are liable also to cause sepsis by too much operative interference there. He laid this man open very freely in the perineum, then did suprapubic cystotomy and stitched the bladder up to his abdominal wall, drained him carefully until the sloughing had all gone away, then did retrograde catheterization, found the posterior end of his urethra, resected a portion of it and sutured his perineum. He has a very good result.

In resected urethræ, sounds for dilation purposes are of no special use. You cannot dilate such tissues perfectly. The main thing is to prevent granulation tissue sprouting up in the resected portion during the healing, and if you prevent that you practically have a permanent result, and the only way to do that is to break the tissue down with a blunt steel sound passed very gently.

3. *Case Presenting a Prostatic Cavity Filled with Calculi.*—The patient was a man between fifty-five and sixty years of age, whose symptoms were urinary urgency, the act being accompanied by a great deal of vesical tenesmus. There was no residual urine. The urine was, however, infected. The bladder had been previously drained by way of the perineum without any relief to the symptoms. The prostate by the rectal feel was somewhat enlarged and inflammatory. In this case the speaker said he made a perineal incision following the track of the former operation. On passing through the prostate he discovered a small sinuous opening and on dilating it came into a cavity filled with calculi, which he now showed. There are about fifty in number, varying in size from a bird-shot to a large pea. He removed them by means of the curette from a cavity lined apparently by soft granulation tissue. This cavity he curetted, packed with iodoform gauze and drained the bladder as previously for a short time by perineal tube. After the cavity had filled up with firm granulation tissue he removed the perineal tube and the man made a perfect recovery.

4. *A Case Showing Interesting Complications from Calculous Formation, Secondary to Prostatic Hypertrophy.*—The patient was a man sixty-five years of age. When first seen he was suffering from alcoholism and from marked vesical tenesmus. This tenesmus, which had persisted for a considerable time, had been sufficient to cause double inguinal hernia. Examination by rectum showed what appeared to be a large rounded prostate, quite firm, and more tender, perhaps, than usual. There was no vesical distention and no history of retention. Owing to the alcoholic state no vesical instrumentation was attempted at the first examination. The case was not seen again until he was on the operating table. On being put under an anesthetic for a prostatectomy the speaker was surprised to find no instrument would pass the urethra, although there had been apparently no symptoms of previous retention. He opened the bladder suprapubically, intending later on to do retrograde catheterization if necessary. On opening the bladder he found the stone which he now showed—an ounce and a half in weight, encysted in the post prostatic cul de sac. The encystment was so firm that the mucous surface of the bladder was torn away on prying the stone out of its cavity. This large stone accounted in a considerable measure for what had appeared to be the prostatic mass which had pre-

sented itself to the feel of the finger introduced into the rectum. After the removal of this stone, on attempting to pass a retrograde catheter he found another stone encysted in the prostatic sinus. This was wedged tightly into the urethra and it was with difficulty removed. On opening the perineum, the retrograde catheter being in position as a guide, he found to his surprise that no stricture of the urethra had existed, but that the urethra by the large inguinal hernia had been kinked and folded, as it were, such kinking accounting for the non-passage of the instrument. This case was a very interesting case. The stone wedged in the urethra produced nothing more than chronic symptoms of distress. In most instances a short stone wedged in such a position would have caused retention, ulceration and extravasation.

DISCUSSION ON DR. FULLER'S CASE.

DR. H. G. KLOTZ said that his experience with prostatic calculus was restricted to one case, in which one calculus was spontaneously evacuated through the urethra after an examination of the urethra with a steel sound and pressure on the prostate through the rectum. In this case—and that was the principal reason for mentioning it here—the most prominent symptom, which induced the patient to seek relief, was the frequency of seminal emissions. Unfortunately he was not in the position to state whether the emissions became less after the evacuation of the calculus, because he did not see the patient afterwards. He was suffering from a well developed valvular heart trouble, which prevented him from further calling at the office.

Nephrectomy for Primary Carcinoma of Kidney.

DR. BREWER—I have brought this patient before you this evening for the reason that it is a condition rarely seen by surgeons and far more rarely successfully treated. He was referred to me by Dr. Culbert, of this city, early in April last.

History—Eighteen months ago he had noticed on rising one morning that his urine was red. About five months later the same symptom occurred. He then consulted Dr. Culbert, who suggested an examination of the urine if the red color again appeared. After that he went for nearly a year without discomfort or untoward symptoms. In January last he noticed on one occasion slight pain in the left lumbar region, which he at first attributed to an indigestion. The following day the urine was again red. He then consulted Dr. Culbert, who detected numerous blood cells in the urine and referred him to me for an opinion. The urine at this time was negative. He complained of no pain and a careful examination of the lumbar regions failed to detect the presence of any tumor. He was subsequently examined with the cystoscope and an attempt made to catheterize the left ureter, which failed. A second cystoscopic examination revealed the presence of a small wavy dark colored mass, apparently attached to the fundus of the bladder just below the left ureteral process. The following day under chloroform anesthesia the bladder was entered through the perineum and thoroughly explored with the finger. As nothing was found he was placed on the right side and the left kidney exposed by an oblique lumbar incision. The kidney was found to be two or three times its normal size, the increase being due to an irregular outgrowth from the anterior surface, which upon inspection and palpation was found to be a soft, highly vascular tumor. This was punctured with an aspirating needle with negative result. A violent hemorrhage followed the withdrawal of the needle, which could not be arrested by pressure. The original lumbar incision was

then converted into a Koenig and the kidney quickly removed. The vessels were separately ligated, the wound partly united in layers, a gauze drain introduced and the patient placed in bed. His recovery was uneventful.

The specimen which I show is considerably smaller than it was at the time of removal, owing to the effect of the formalin solution in which it has been preserved. The microscopic examination shows it to be carcinoma.

DISCUSSION ON DR. BREWER'S CASE.

DR. J. A. BLAKE said that he thought this case emphasized the fact that we ought to consider those cases of hematuria very carefully, even when associated with such slight symptoms as we had here. He thought the case was of a great deal of interest from that very fact. He thought Dr. Brewer was to be congratulated upon operating at such an early moment.

DR. GUITERAS said that the case was of great interest to him because a few months ago he had reported a similar case. In that case he reported the patient had pain and discomfort in the lumbar regions on the left side, had attacks of hematuria, those attacks following exertion; had a very large varicocele, which he had had for fifteen years on left side—the largest one the speaker had ever seen. The tumor was plainly made out on palpation. The patient had lost about fifty pounds in weight—a man of very large frame. After operation—and there was a great deal of hemorrhage connected with it—the patient's wound gradually healed, leaving a sinus caused by a silk ligature that had been placed about the pedicle. This fistulous tract was curetted and treated with carbolic acid and alcohol and by different means, but was very rebellious. Some two months after the operation the suture came away and then the fistulous tract immediately healed. The patient since the operation had gained, he understood through his physician, between twenty and thirty pounds, and he looked well, although very cachectic before the operation. The most remarkable thing in connection with the patient was this, that the very large varicocele, which he had had fifteen years, was completely cured by removing the kidney.

DR. BOLESŁAW LAPOWSKI (on Dr. Brewer's case)—Dr. Brewer is to be complimented on account of the success of the operation, but congratulations can also be extended to him on account of the lucky circumstances which accompanied the operation.

When the operator saw the urgent necessity of removing the diseased kidney and he did remove it, he ran a double risk of losing his patient, which happily did not take place, owing only to the lucky circumstances that, firstly, the patient possessed a second kidney, and secondly that the function of the existing second kidney was not impaired, as the present healthy look of the patient permits us to assume.

The speaker wished to call the attention of the Society particularly to this second point. Before performing a nephrectomy the surgeon usually assures himself of the presence of the second kidney, but rarely, if at all, directs his attention to the condition of the functional action of the second kidney—an action which cannot be ascertained either by microscopical, or by usual chemical examination of the urine. This action—let us call it the functional action—in some way can be compared to the functional action of other glands as the thymus, suprarenal, etc. This functional action of the second kidney in nephrectomies is of great importance. He had recently occasion to look over the literature of death following nephrectomies—and came to the conclusion that in many cases sudden death

from uremia, shortly after nephrectomies which were undertaken with all confidence of ultimate success, was due to the failure of determining before the operation the condition of functional action of the second kidney.

Several years ago—even up to the last year—a surgeon could be excused in omitting the consideration of this point, as we did not possess clinical means by which this action could be determined.

In the last year a decided progress was made regarding this point. We are all able at present by the use of cystoscopy to determine whether the functional action of the kidneys is normal or impaired. I think that this method is in use in the Mount Sinai Hospital of this city.

DR. J. B. WALKER said he was present at the operation, and appreciated all the difficulties of the case. Dr. Brewer readily overcame them all, and removed the growth, which was much better out than in. He was sure if he had a similar case to-morrow he should follow his method. Malignant disease of the kidney was always rapid, and the first moment the diagnosis was made the entire kidney should be removed.

DR. OTIS, the Chairman, congratulated Dr. Brewer on his case, because it was so extremely rare that malignant disease was discovered in time to be effectually removed.

In regard to the discovery of the second kidney it did not seem to him to be of very much importance whether the second kidney was working or not. He meant by that if the surgeon thought it was well to remove the kidney, and if that kidney was in such a condition as to need removal, as that one did, if the patient had not another good kidney, that was his misfortune. If it was not working, you might just as well sign the death certificate. There had been so much stress put upon the second kidney, there was very little to be gained by finding if there was another kidney there.

DR. BREWER agreed thoroughly with the position taken by the Chairman. It seemed to him that in a case of this sort, where we find on exploratory incision, we have to do with an enormous new growth, apparently a very rapidly growing malignant tumor, that the indication is to remove that kidney at the time as thoroughly as possible. As there was on the kidney a slight tendency to perforation of the capsule, he thought that there was a fair chance of a recurrence, but certainly if operated upon at a later period the probability of recurrence would have been much greater. In this particular instance, however, even if he agreed with Dr. Lapowski—which he did not—he would have been compelled to remove the kidney, as the puncture of the kidney resulted in such a violent hemorrhage that it was utterly impossible to control it in any way. He also wished to call attention to the fact that there are two aberrant arteries on the kidney, both of which were ruptured in the attempt to expose it.

If we are dealing with malignant disease of the kidney, the chances of the other kidney being absent are so small that he thought it would have been bad surgery to have permitted this kidney to have remained.

DR. FULLER asked Dr. Brewer if he expected that patient to be alive at the end of three years. In such a vigorous young man as that he thought there would be a recurrence. He remembered one case which at the end of two years seemed to be perfectly right, and then died from malignant bowel complications. That man was a good deal older; he was in the fifties. In a young man with such a rapid growth as that he should almost be afraid that the puncture of the malignant mass during the operation, which bled so freely, might of itself lead to a recurrence.

DR. BREWER, in reply to Dr. Fuller's question, said that whereas in the great majority of instances malignant tumors of the kidney are removed at a period when the disease has extended beyond the capsule of the kidney and recurrences are therefore very common, in this instance we can feel sure that the disease was entirely removed, which would offer, he thought, a fair hope that he might not suffer from a recurrence.

He did not believe that the puncture and the possible contamination of the surrounding tissues by fluids or bits of tissue from the tumor necessarily favored local or general recurrence, for although much had been written upon that subject and such claims had been from time to time made by our best authorities, he was personally rather sceptical in regard to it for it was certainly the practice of many of our very best surgeons to make exploratory incisions into breast tumors and other malignant growths before determining upon the extent to which extirpation should be carried, and he had never yet been convinced that that procedure favored a local or general recurrence of the disease. He had, however, no scientific proof of that statement—only an impression which he had gained from clinical observation.

DR. PRYOR expressed himself as somewhat surprised to hear Dr. Brewer's remarks on the innocuousness of incision into cancerous masses and the lack of evidence showing the inoculability of cancer. If there is one rule which we gynecologists regard as established, it is that whenever a diagnostic incision has been made into a suspected cancer, the radical operation must follow in two weeks if cancer be found; for if the radical operation is postponed rapid dissemination of the cancer will be found to follow the diagnostic operation. This applies with particular force to diagnostic curettage and section of the cervix. As to cancer being inoculable; we find it on the vulva from uterine cancer; it has been found to occur in an abrasion produced by the leg-crutch; by contact between a mammary cancer and the belly-skin in an obese subject, and along the track of a trocar puncture in ovarian papillomatous cyst. There are many other instances I might cite. Of course, when Dr. Brewer found he had a cancerous kidney to deal with he had to remove it; but in all these kidney lesions, inflammatory and otherwise, I invariably do a transperitoneal operation. By this, and this means only, can we determine the state of the other kidney, and remove the whole ureter with a diseased kidney.

DR. GUITERAS said that whenever the question of nephrectomy came up, as to whether the kidney ought to be removed or not, there was always **something said** about the other kidney. It seemed to him that it was extremely rare to find a case where two kidneys did not exist. In a great number of autopsies he had never yet seen a case where there was not two kidneys—in teaching, and in private surgery for six years, and examining a great many cadavers, he had never seen a case where there were not two kidneys. At the same time he thought we should always cystoscope our patients to see if we can see the urine coming from both kidneys, and, if we can, catheterize the ureters, as by doing so he thought it made a more valuable report and gave a better knowledge of the case; and if we do not do this he thought we ought to examine them separately by the Harris Segregator. Certainly if the second kidney does not exist we ought never to remove the diseased kidney because it would be simply killing our patient immediately, whereas if we let him go he may live for a number of months, for in examining a great many malignant kidneys we certainly do find portions of them functioning. In Dr. Brewer's there is at least a quarter or a third of the kidney

which can functionate; and in the one mentioned by himself at least a third and probably half of the kidney was in working order.

Nephrectomy and Excision for Seminal Vesicles for Tuberculosis.—

DR. J. A. BLAKE.

J. R., typesetter, age 39; single; family and previous personal history negative.

Five years ago attack of severe lumbar pain, right side, lasting one week, and was told by medical attendant that the kidney was affected. Since then, up to July, 1899, had no symptoms except indefinite feelings, malaise, etc., which were attributed to malaria.

In July, 1899, while in the Klondike, severe pain in right lumbar region, extending to thigh and testicle with retraction. The pain gradually subsided, but in the following month blood and pus in large quantities appeared in the urine, accompanied with symptoms of vesical irritation, as frequency and pain.

He was entirely incapacitated, and came back to this city, where he was treated for cystitis, up to the time of his admission to St. Luke's Hospital, April 13th of this year. Any instrumentation of his bladder had markedly increased his symptoms.

At this time his urine was loaded with pus, and tubercle bacilli were found.

He came under my care in May. The right kidney then was felt, as a large mass extending nearly to the iliac crest. Rectal examination of prostate and vesicles was negative. He was somewhat emaciated, having lost about forty pounds.

He was running a septic temperature, in the neighborhood of 103° in the afternoon. On May 16th I removed, by an oblique incision, the kidney and major portion of the ureter, dividing it as the bifurcation of the iliac vessels.

The kidney was studded with tubercles, and contained numerous abscesses. Two of these had ruptured through the fatty capsule of the kidney, on its dorsal surface, at its lower pole, infiltrating the tissues with stinking pus. There was also considerable edema of the neighboring muscle. As much as possible of this fatty capsule was removed with the kidney.

The lower part of this well was closed, the upper part being left open, with abundant iodoform-gauze drainage. Cultures were not taken, but without doubt there was a superimposed colon bacillus infection. The upper part of the ureter was considerably thickened and diseased. The lower part, where divided, being in much better condition.

The wound healed slowly, there being much discharge, but no sinus formation.

His general condition improved markedly, as well as his vesical symptoms, although the urine did not become clear.

However, in August, pain, tenesmus and frequency returned, with more pus in the urine. Rectal examination revealed a tender, somewhat enlarged prostate, with irregular areas of softness and induration. The left seminal vesicle was also markedly enlarged. The right, negative.

On August 17th, by the Zuckerkandl incision, I removed the left seminal vesicle, and curetted the prostate thoroughly, removing a considerable amount of soft granulations and pus.

The bladder was drained through the membranous urethra, and gauze drains inserted to the prostate at each angle of the wound.

The patient has improved, gaining thirty-five pounds, and he now holds his urine for four hours, although he is subject to attacks of cystitis, with increased frequency. The urine now contains shreds and pus in small quantities.

The sinuses left by drainage have never wholly closed, and I now find that the right seminal vesicle is enlarged and indurated, and in the last twelve days he has noticed a nodule in the right epididymis.

I am now sorry that I did not remove the right seminal vesicle. It seems now advisable to remove it, together with the testicle and the stump of the ureter, employing the postero-lateral incision, either with or without division of the sacrum.

The writer thinks that in such cases as this we should pursue and eradicate all approachable foci.

DISCUSSION ON DR. BLAKE'S CASE.

DR. FULLER said he thought there was no doubt the man would have been dead by this time if he had not had that kidney removed, and he thought the removal of the ureter was most wise. He doubted, however, whether anything was gained by the removal of the seminal vesicle in the state that this one was. He had now got his other seminal vesicle also involved. He doubted if one could do a very radical operation in the removal of a seminal vesicle for tubercle by the Zuckerkandl incision. You could not do it very cleanly. He thought as far as the seminal vesicle was concerned it would have been better to have tried rather more conservative measures in that respect. The kidney, owing to the suppression, high temperature and infection, would have brought him rapidly down, and that tubercular focus should certainly have been removed to save the man's life; but this reasoning does not apply to the vesicle. You take a man who has tubercle, a tubercular seminal vesicle which is not specially imperilling him, put him to bed and remove it, and you are very apt to find that the second organ becomes soon after involved. You cannot take such a man and get him rid of all his tubercle bacilli. The way the case looked now he certainly should not think of going surgically after that second seminal vesicle, but should treat him therapeutically. He did not believe in being too radical in those tubercular seminal vesicular cases. He was more inclined now to treat them conservatively and to do his operations on non-tubercular grades of inflammation.

NEW YORK DERMATOLOGICAL SOCIETY.

292D REGULAR MEETING, DECEMBER 18, 1900.

HENRY H. WHITEHOUSE, M.D., *President*.

A Case of Possible Multiple Chancre and Chancre A Distance.— Presented by DR. H. H. WHITEHOUSE.

The patient was a young man, about thirty-five years of age, who presented what were apparently two indurated chancres in close apposition on the prepuce behind the corona, and another, simultaneously inoculated, on the middle of the flexor surface of the left little finger. The latter was not indurated, was flat, about $\frac{3}{8}$ of an inch in diameter, with a bright red granulating surface, and bleeding very easily. They were all devoid of pain, and not sensitive to touch. They had begun eight weeks ago, ten days after coitus, and, as far as could be learned, all had developed at or about the same time. There was no eruption

upon the skin, and the patient had seen none, nor were there any constitutional symptoms. The inguinal glands of both sides were enlarged, and the left epitrochlear gland was as large as a good-sized pea, and was very hard. The left axilla contained a gland as large as the end of the thumb, and several smaller ones, all of which were hard, freely movable, and separated one from the other. The lymphatic glands in other regions were normal. The man presented scars in the left inguinal region as the result of an operation on September 16th for a non-suppurating adenitis, but he denied having had sores of any kind on the penis prior to those now present. His last gonorrhea had been fifteen years ago.

DR. P. A. MORROW thought it very probable that the lesion on the finger was one of the same general character as that on the penis; the case was interesting from its comparative uniqueness. The present appearance of the lesion on the penis suggested the possibility of there having been two separate lesions, which had afterwards become confluent. He had seen a number of cases of multiple chancres in the same location, the result of inoculation at the same time.

DR. H. G. KLOTZ said that he had no reason to doubt the diagnosis, although there was no really typical induration, either on the prepuce nor on the finger. Many of these extra-genital lesions were free. But it might be absent even where the primary lesion was located on the genitals. He recalled a most malignant case of syphilis, in which there had been absolutely no induration, but a few small lesions resembling herpes, which had healed quite promptly. He had been treating the patient for suppurating bubo, and had, therefore, had an excellent opportunity to watch the case. This was one of the cases which had begun with preliminary lesions, with a papule on the head, and which had been followed two weeks later by a general eruption.

DR. S. SHERWELL said that he had seen a few cases of double or multiple infection. He called to mind one case of absolute typical double infection. A congenitally syphilitic baby had been born to a boss 'longshoreman, both parents syphilitic, and had died about eighteen months afterward. When first seen by him it had been a most pitiable object, with severe pemphigus neonatorum, etc., but had lived for eighteen months. The wife of another 'longshoreman had been employed as wet-nurse for this baby, and she had contracted a perfectly typical double chancre of the nipples, with classical induration, etc., a severe infection followed by eruption.

DR. WHITEHOUSE said that he had studied the case very carefully one week ago, and had inadvertently prescribed black wash. The induration at the prepuce then was as typical as was ordinarily seen in chancre of that locality. There might possibly be a question as to its being a distinct double chancre. There was an imperfect history as to there having been two separate lesions which had fused together. The occurrence of the lesion on the finger seemed to him of considerable importance. There had been no particular induration of this lesion, which was not unusual in this situation. Hutchinson says there might be a chancre on the finger without any ulceration—simply a dusky spot lasting for a time, and followed by all the usual manifestations of syphilis. He would keep the case under observation, and report later. The buboes in the groin seemed to clearly antedate the present lesions on the penis by at least a month, and presumably had nothing to do with the present condition. The man denied having had a recent gonorrhea or previous lesions on the penis.

REPORTS ON CASES PREVIOUSLY PRESENTED.

Case of Morphea.—DR. S. SHERWELL said that he had seen his case of morphea once since the last meeting, and would report that there had been no change in the lesion. An ointment of about one-fourth the strength of the official ammoniated ointment had been applied, and it had caused a little irritation. She had been given internally syrup of the iodide of iron and Fowler's and Donovan's solution in moderate dose, and gentle massage employed. He expected amendment by this treatment.

Case of Leukoplakia.—DR. J. M. WINFIELD said that he had tried Dr. Sherwell's treatment on this case, and the man had suffered terribly from the pain, which had come on two hours after the application, and had lasted for twenty-four hours. The application had been made at first to the tip of the tongue, and it had certainly improved the condition.

Case for Diagnosis.—DR. J. A. FORDYCE said that the case presented by him for diagnosis at the last meeting had proved to be one of chronic eczema. It was now well.

Case of Hypertrophic Lichen Planus.—DR. A. R. ROBINSON reported on his case of hypertrophic lichen planus reported at the last meeting. When presented, it had been a perfectly clear case of lichen planus, but when seen about two weeks previously he had not diagnosticated lichen planus, but one of ordinary warty eczema. The lesions were now disappearing in some parts. According to the history there had been chronic toxic or neuritic eczema, exhibited in the form of numerous lesions between the fingers. She had recently developed a similar series of eruptions. It would be remembered that on the thighs were the typical lesions of lichen planus. The case raised the interesting question as to what relation, if any, there was between a toxic eczema and a typical lichen planus. She was now taking arsenic, but had not been taking it before coming to him.

DR. G. H. FOX said that in connection with this case he desired to say that he had just seen for the first time in his experience a case of hypertrophic warty lichen planus on the back of the hand. Mention was made of the case at the Skin and Cancer Hospital, which had been treated with full-strength Vlemingk's solution. The improvement had been very marked.

DR. MORROW said that when chrysarobin and pyrogallol had been introduced into this country many years ago he had had under his care in the Charity Hospital a great many cases of psoriasis, and he had been anxious to test the relative efficiency of the two remedies. He had accordingly applied one remedy on one side of the body, and the other on the opposite side. He had found a very marked difference in the promptness with which the lesions had disappeared. If one extremity, for example, were treated with a drug of definite value, and the other untreated, he did not believe there would be an improvement *pari passu* of both extremities. So far as local applications were concerned, it seemed to him a mistake to assume or state that the application of a given drug, which is not readily absorbable on one extremity would produce an equal improvement upon the other. Certainly it had not been his experience, though he had presented to the society and published a series of comparative tests of this kind.

DR. FOX said he would defy Dr. Morrow or any one else to take any case of

copious eruption of psoriasis and completely cure one side of the body, leaving the other half of the body unchanged. He had tried in some cases of pustular acne to show the effect of the curette by scraping one side of the face and improving it, and then photographing it. He had found that when one side had been greatly improved the other side had also been improved, and, hence, the contrast that he had desired to make in the photographs was impossible.

DR. MORROW remarked that if this were strictly true, then it did not seem to be necessary to treat more than one-half of the body. He had treated many cases of acne by local measures where there were many comedos. He had frequently treated one side of the face, expressing most of the comedos, and had left the other side untouched, yet he had not found that it had been improved by such one-sided treatment. These cases had been complicated by numerous acne pustules.

DR. FOX said that he had only referred to the vascular element. The treatment of comedos in this way was another matter.

DR. SHERWELL said that he had frequently left certain portions of the face untreated, and they had gotten well without treatment. The other, or treated portions, had certainly improved much more rapidly.

DR. ROBINSON said that he had made some experiments on alopecia areata. He had treated one-half of a number of lesions with chrysarobin. Quite frequently he had been able to stop the progress of the disease on one side, yet the other side had continued to progress. Certainly if Dr. Fox's theory were correct the untreated half of a small lesion should have improved.

DR. MORROW said that he could understand readily how, with the use of a drug like mercurial ointment, one might get an improvement on both sides of the body because of the very ready absorption of that drug. In one of the worst and most widely distributed cases of psoriasis that he had seen he had prescribed mercurial ointment for the face and scalp, and chrysarobin paint for the rest of the body. The patient had used mercurial ointment very freely and energetically for ten days or more, and had then returned with an exceedingly bad pytalism. The psoriatic eruption had disappeared from the entire body, but it had reappeared before she had entirely recovered from the effect of this pytalism. However, in the case of a drug like chrysarobin, which was not apparently absorbed, he did not think one side could be improved by treating the other side of the body with it.

DR. FOX said that when chrysarobin had been first introduced some experiments had been made with the treatment of one-half of the body while the other half was protected by a bandage. It had been found that both sides had improved, even though the chrysarobin had been applied to one side only.

DR. E. B. BRONSON did not think it was wise to assume an extreme position on either side. If the cutaneous manifestations were relieved at the point of greatest severity, the other parts would invariably improve. This was frequently seen in eczema. If the disease were treated only at the points where it was most severe, it would be found to improve in other parts without special treatment, simply showing that when the chief irritation was taken away the skin, as a whole, was relieved. He was firmly convinced that he had seen psoriasis disappear from places on the head when chrysarobin had been applied to the face, and not to the head. However, he would admit that the improvement had not been marked, and certainly had not been *pari passu*.

DR. MORROW said that a few days ago a man come to him at the New York

Hospital with an intense erythematous eczema of the face and neck. The brow had been the seat of this eruption for a considerable time. There was also an eczema of the anus and perineal region. He would like to ask Dr. Bronson if he would assume that local applications to the perineal region would affect the erythematous eczema of the face.

DR. BRONSON replied in the affirmative. He knew of a case, he said, in which there had been an intense irritation about the genitals from chrysarobin, and almost simultaneously an eruption had appeared on the face.

DR. SHERWELL thought that this simultaneous appearance of the eruption on the face might be accounted for by contamination from the fingers of the patient.

DR. ROBINSON said that frequently when cantharides plaster is applied to the arm to produce a blister a dermatitis appears on the corresponding position on the other arm.

DR. H. G. KLOTZ said that psoriasis and alopecia areata were such capricious diseases, having such a strong tendency to disappear spontaneously, that they should not be selected as examples in favor of one or the other side of this controversy.

DR. BRONSON said that a woman had come to him with complete alopecia areata of the scalp. Without a lens he had not been able to see even lanugo hairs. The case seemed to him an excellent one for trying the regional treatment alluded to by Dr. Fox. Different remedies had accordingly been applied to different areas to see which would accomplish the most. Carbolic acid had been applied to one portion, mercurial applications to another, pyrogallol to a third, and so on. After a time it had been noticed that the part to which the pyrogallol had been applied had begun to show regeneration of the hair, and this had kept up until it had been evident that it was far ahead of the other remedies, and then it had been used exclusively over the whole scalp. As a result the woman now had a good head of hair.

DR. WHITEHOUSE said he was reminded of a case he had had two or three years ago, a case of pityriasis rubra pilaris, involving the lower part of the trunk, the crotch and upper part of the thighs. It was a typical case, and fairly well confined to that locality. Under the hands of a colleague a 10-per-cent. chrysophanic acid ointment was applied, with a very prompt beneficial effect, and it entirely disappeared, but returned subsequently in the axilla and upper part of the chest, the original site remaining free. While not exactly pertinent to the question under discussion, it impressed him as an interesting clinical observation.

DR. FOX said that in some cases in which he had applied chrysarobin he had been surprised to find white disks appearing on various portions of the trunk where the skin had appeared at the outset to be absolutely normal. He was inclined to believe that the psoriatic patches had formerly existed in these areas.

DR. FORDYCE asked how psoriasis was to be cured when it did not react to chrysarobin or other so-called reducing agents. He now had under his care at the hospital a woman who had used chrysarobin in 10 and 15 per cent. strength, but to no avail.

DR. ROBINSON thought all these cases could be cured by internal treatment—alkalies and arsenic, together with a proper regulation of the diet and habits of life.

DR. FOX said that there were certainly cases in which chrysarobin did harm instead of good. It was never inert; it either did good or harm. Often the more superficial forms of psoriasis would be aggravated by chrysarobin. Here internal treatment with alkalies was indicated, and later on chrysarobin might be of service.

DR. MORROW said that in inveterate cases he had secured good results by the copious use of linseed oil until the surface had been cleansed and reddened, and then following this with the application of turpentine. He was not so optimistic as Dr. Bronson regarding the cure of these cases by internal treatment and a proper regimen. He had seen more than one case that Dr. Robinson had had under his care for a long time, and yet had proved rebellious.

DR. WINFIELD referred to a case of chronic psoriasis that had resisted all the usual treatment. He had taken the patient to Dr. Robinson, who had prescribed a very careful system of diet. In about two months the man had been cured, but he had relapsed about a year or two into his former habits, and the eruption had returned. The case had been placed under treatment in the spring.

Case for Diagnosis.—DR. KLOTZ reported on the case presented by him at the October meeting for diagnosis. He had not seen the patient for four weeks, and during that time mixed treatment had been continued. The eruption on the shoulder had entirely disappeared, except for a slight redness, and the more deep lesions on the leg, and particularly on the right toes, were almost healed. Quite recently two scaly patches had again appeared on the shoulder. It was probably, therefore, a case in which both syphilis and psoriasis are present.

Case of Tubercular Leprosy.—DR. S. LUSTGARTEN said, regarding the case of tubercular leprosy presented for him by Dr. Allen at the October meeting, that there could be no question about the correctness of the diagnosis. The lepra bacilli had been found in the lesions.

DR. SHERWELL said that he had sent back to the Barbadoes a few days ago a white woman, a native of that island, who had been living in Brooklyn since last spring, who was affected with a typical anesthetic and tubercular leprosy. He had given her fairly large doses of nux vomica and arsenic, and under this medication she had improved quite remarkably. She had been under this treatment for a period of about five months.

Selections.

CUTANEOUS DISEASES.

The Histopathology of Erythematous Lupus and of the Elastic Fibers.—

By P. H. SCHOONHEAD (*Arch. für Derm. U. Syph.*, Vol. 54, p. 163, 1900).

Eleven patients in various stages of erythematous lupus formed the basis of the writer's investigations. Portions of skin were excised from different affected regions and placed in alcohol, formol, Müller's and Flemming's solutions, and later, the sections were stained with various methods: Van Gieson, Unna-Sanger and Weigert's.

After giving a critical review of the literature relative to the subject, the

writer draws his own conclusions, as follows: In the beginning the process shows inflammatory changes in the reticular layer of the skin. In the earliest stage the sebaceous and sweat glands are involved, and even then there is some predilection of the process in spreading around the foregoing gland. In the later course the connective tissue takes an active part in the process; it undergoes a hypertrophy and the infiltrations, formerly circumscribed, become more disseminated. In that stage the epithelial layers are changed, the superficial layers take on a stronger tendency toward keratinization. At the end of the progressive changes typical degeneration takes place in the elastic fibers, which clinically give rise to scar-like atrophy of the skin. The changes in the elastic fibers are mostly localized in the upper layers of the cutis, and very little of typical scar tissue is developed. And in this fact lies the reason why the scars are superficial and soft. Next, the resorption of the inflammatory products takes place. The pathological process is somewhat like the changes which take place in chronic infectious neoplasms—granulomata—an opinion expressed by Robinson and White. The whole aspect of erythematous lupus has clinical and histological features which enable it to retain the separate position which it occupies in the pathology of skin affections.

Two Cases of So-called Adenoma Sebaceum. (Hallopeau-Leredde's "Naevi Symmetriques de la Face"). —By C. PEZZOLI (*Arch. f. Der. U. Syph.*, Vol. 54, p. 192, 1900).

After giving a critical review of the literature of the subject the writer states the clinical histories of two cases, which as to their clinical features are alike, but histologically differ in some important points. In both cases the acini of the sebaceous glands were increased and enlarged. The corium was in one case hypertrophied; in the other in normal condition. The same difference was noticed in the sweat glands. In spite of these variations the writer regards them as belonging to one class, namely to the class of naevi, in the sense of Hallopeau and Leredde. He does not approve of the name of naevi sebacei, given by Pedersen to this class, as in such cases not only the sebaceous glands but other portions of skin are involved. He rather would adopt the name of symmetrical naevi, proposed by French writers, and divide them into two groups. In the first the sebaceous glands are hypertrophied, in the second we have to do with a true formation of adenoma.

Tuberculosis from Ritual Circumcision, after a Lapse of Fourteen Years.

By R. BERNHARDT (Elsenberg's Clinic) (*Arch. f. Der. U. Syph.*, Vol. 54, p. 22, 1900).

Considering the fact that from 40 to 50 per cent. of children inoculated with tuberculosis of the præputium die in infancy, the case is one of rare exception. Dr. Elsberg saw this case first fourteen years ago (and described it in 1886) several weeks after the child was circumcised. It is the custom among the class of people the parents of the child belong to, for the religious operator to suck the penis, trying to stop the hemorrhage. Many inoculations with syphilis and tuberculosis are due to this pernicious custom. In this case the tuberculosis was inoculated in the foregoing manner.

The tubercular lesion on the frenum did not improve for the first three years, in spite of great care taken by the parents. In the beginning only the glands of

the inguinal region were affected; three years after, the glands of throat, neck, and lower maxilla swollen, only the skin upon the glands of the right side of the throat was red and adherent. At that period two tubercular ulcers and several tubercular papules were seen upon the thickened, hard preputium. A portion of the ulcerated preputium was cut off; the rest was cauterized, or curetted and dressed with Peru balsam. Cicatrization gradually took place.

Last year, fourteen years after inoculation, the patient was seen again, presenting the following condition: Boy in good health; the right portion of the preputium infiltrated, and here and there are scattered hard tubercles. The left normal. Upon the glans numerous pin-head size, hard and dark red tubercles are scattered. Some of them are covered with epidermis, others with crust, which concealed a pin-head size ulcer. The tubercles are either scattered or form groups upon an infiltrated basis. At a distance of 5 mm. from the corona glandis a line of demarcation, consisting of flat tubercles, some of them ulcerated, surrounds the whole thickness of the penis, merging in the infiltration of the frenatum, adjacent portions of the glans and parts of the retroglandular sulcus. But the rest of the retroglandular sulcus and the corona of the glans are entirely free from any changes. The mouth of the urethra is narrowed, owing to scars and tubercles around it.

Both inguinal glands are enlarged and painful. In the right submaxillary region is a 4 cm. long scar. The glands of the throat are enlarged.

The respiratory organs did not reveal, after most careful research, any changes. Temperature, normal. Testicles, epididymitis and prostate not affected. The bladder functionates normally; the urine normal.

Microscopical examination of some tubercles from the gland gave a picture of tuberculosis and a few tubercle bacilli were found in the secretions.

Contribution to the Study of Leucoplasia of the Vulvo-Anal Regions, Its Connection with Kraurosis Vulvæ and Its Treatment.—LEON PERRIN

(*Ann. f. Der. u. Syph.*, Vol. LI., 1901, p. 2).

Two cases have been examined microscopically and treated surgically with good results by the writer.

From the study of the clinical symptoms and histological findings he concludes that kraurosis and leucoplasia of the vulva are two stages of the same disease and that early radical surgical intervention will give the best results. It is the best and only treatment which will exclude the always dreaded development of an epithelioma. We are to interfere before any vestige of an epithelioma is present, as soon as the diagnosis is made. The radical operation also removed all the annoying symptoms of the disease.

Researches Regarding Alterations of the Skin, of the Blood and of the Urine in a Case of Pemphigus Chronicus Verus.—CH. AUDRY, GER-

ARD and L. DALOUS. (*Annal. f. Der. u. Syph.*, Vol. LI., 1901, p. 113).

The examination of the blood and urine by means of cryoscopy revealed slight changes in the urine indicating some irregularities in the kidney function.

The changes in the epithelium and skin are, according to the author's opinion, of secondary origin and are depending more upon general causes. The bubo can only be developed if alterations in the epidermis exist before the plasmatic exudation from the vessels takes place. Histological examinations hardly can reveal to us the decisive and complete reasons of the disease. The

bubo does not signify more in pemphigus than râles in pneumonia. We have to divert our attention to other sources and see whether the often mentioned alterations of the spinal cord in the course of pemphigus do not play a primary or secondary part, being primarily due to an infection or change in nutrition. The leucocytosis, the existence of adenopathies, the striking changes in the urine go to prove that there is a poison, unknown as yet to us, active in the system.

The So-called Angioneuroses of the Skin, Especially the Pathologico-Anatomical Changes of Urticaria, Multiform Erythema and Erythema Nodum.—LUDWIG TÖRÖK (*Arch. f. Derm. und Syph.*, vol. 53, 1900, p. 243).

The angio-neurotic theory is largely called upon to explain various manifestations upon the skin. Authors have never tried to demonstrate the vasomotor origin of the skin changes which were considered as due to an angio-neurosis, but on the contrary, accepting the angio-neurotic origin of the skin manifestations as proven, they only endeavored to find in the local manifestations of the skin characteristic properties of the angio-neurotic process. So that the primary plain clinico-etiological conception of angio-neurosis was changed into a pathological, instead of a pathologico-anatomical.

The writer then critically reviews the ideas of Auspitz, Unna, Kaposi, regarding this subject, as well as Philippson's, and his own investigations and says that,

1st. All the symptoms which serve as a basis for regarding certain skin changes as due to angio-neurosis and to an "inflammatory process," cannot be regarded as such when we consider them critically.

2nd. Exact investigation proves that the skin changes in urticaria, erythema multiforme and nodosum, are not to be regarded as simple "inflammations."

Notes of a Case of Pemphigus, Particularly in Connection with the Local Treatment.—ARTHUR VAN HARLINGEN. (*Therap. Gaz.*, Vol. 25, 1901, p. 155.)

The author believes that the general symptoms accompanying pemphigus, as high temperature, delirium and stupor are due to the absorption of septic matter from the blebs; consequently, the indication for treatment is to abort, when possible, the development of the bulla and to shorten the life of the developed lesion and to check its course as quickly as possible.

His plan is to open each bleb as widely as possible and to lay it bare by removing its covering. A wet dressing of bichloride of mercury 1 to 2,000 or 1 to 4,000 is then applied and kept in apposition from twenty-four to forty-eight hours. The dressing is then removed and ichthyol, either pure or in a 20 to 50 per cent. aqueous solution is applied. After a few days this is changed for a simple zinc oxide paste or ointment, or occasionally a euophen or iodoform ointment. When the eruption is extensive, one limb or a fraction of the surface may be treated at a time. Internally, 1-100 grain of strychnin daily and later four grains of quinine daily are given. The changes in the epithelium and skin are, according to the author's opinion, of secondary origin and are depending more upon general causes. The bulla can only be developed if alterations in the epidermis exist before the serous exudation from the vessels takes place. Histological examinations hardly can reveal to us decisively and completely the etiology of the disease. The bulla does not signify more in pemphigus than râles in pneumonia. We have to divert our attention to other sources and see whether the often mentioned alterations of the spinal cord in the course of pemphigus do not

play a primary or secondary part, being primarily due to an infection or change in nutrition. The leucocytosis, the existence of adenopathy, the striking changes in the urine go to prove that there is a poison, unknown as yet to us, active in the system.

GENITO-URINARY DISEASES.

Advantages of Circumcision.—By JONATHAN HUTCHINSON ("London Letter," *Medical News*, November 3, 1900).

Cleanliness is the most obvious advantage of circumcision, especially in childhood, before the habit of withdrawing the skin and washing the glans has been learned. In many children the attempt to withdraw the skin would result in paraphimosis, and the practice would, in addition, be injurious to morals. In middle life seborrhea, balanitis and herpes are common, as the result of the retention of the prepuce; and in old age the danger of cancer, to those who suffer from phimosis, is great.

Circumcision also tends to prevent syphilis; which may possibly account for the fact that syphilis is much less common among Jews than among Christians. Circumcision is the best measure ever proposed for the prevention of syphilis. It also probably tends to increase the power of sexual control.

A. L. W.

The Longevity of the Gonococcus.—By E. WOOD RUGGLES, M.D. (*Buffalo Medical Journal*, December, 1900).

Ruggles reports a case in which the gonococcus apparently persisted in the prostatic urethra for more than ten years, in the absence of all suspicious coitus. The patient was a married man, the father of one healthy child. Had first gonorrhea eight years, and second gonorrhea six years before marriage, in 1891. First attack lasted two or three months; second attack was a very severe one; had anterior and posterior urethritis, epididymitis and cystitis. Strangury excessive. Then had gleet for two years, with occasional exacerbations. Since 1887 has had no discharge, but urine always contained clap shreds.

Since his marriage, in 1891, has had no extra-marital relations. Wife has never been infected. In August, 1900, he drank several cocktails and three or four glasses of beer, which he followed by protracted coitus. Next morning urethral irritation and discharge appeared, in which were found unmistakable gonococci. Prostate was found to be two inches in diameter, round, not very tender, and exactly resembling the hypertrophied prostate of old age. Under massage it became softer; no fluctuation. The secretion expressed contained much pus, a few of the pus cells containing gonococci. The posterior urethra then became inflamed, and left epididymitis developed. Gonococci still present in the discharge.

In October the gonococci entirely disappeared from the discharge, and have not been found since, though the urine contains filaments.

The epididymitis was possibly caused by the massage of the prostate; but it was thought better to take the risk of local infection than to leave the prostatic focus of poison intact.

A. L. W.

Treatment of Gonorrhea and Gonorrheal Rheumatism.—(*Monatsh. f. Prakt. Dermatol.*, XXXI., 1900.)

During the past two years Dr. L. Leistikow has had occasion to treat fourteen cases of well-marked acute gonorrheal rheumatism. Most of the cases were ac-

accompanied by high fever, which lasted from ten to fourteen days; recovery ensued in three to five weeks. In nine cases one knee joint only was affected; in the other cases the knee joints, ankle joints, or shoulder joints were the site of the attack. In twelve cases the cure was complete; in only two cases there remained an exudate with partial ankylosis, which resisted all kinds of treatment. All of the fourteen cases were accompanied by a posterior urethritis, while in most of them there was also an anterior urethritis. The treatment in all of the above cases was as follows: 10 per cent. ichthyol-vasogen was gently rubbed into the affected joints several times daily; the joints were then covered with waxed linen or gutta-percha tissue, then with absorbent cotton and a mull bandage. Internally, 3 to 5 drops of ichthyol were given in plenty of water, three times daily, after meals. The urethritis was treated with irrigations of weak solutions of ichthargan. The urethritis posterior was cured in eight to ten days; the urethritis anterior had to be treated with stronger astringents.

Treatment of Gonorrhea. —SCHERCK (*Therap. Gaz.*, January 15th, 1901) uses one of the following injections for acute gonorrhea: Mercuriol 2 per cent., protargol 5 per cent., Credé's silver 1 per cent. Injections are made with a hard rubber blunt-pointed syringe till the anterior urethra is distended. The fluid is retained five minutes, and the urethra afterwards irrigated with two gallons of 1 in 1,000 permanganate of potash solution. The combined treatment is carried on twice a day, and the permanganate gradually increased to 1 in 500. The average time required for destruction of the gonococci is said to be six to ten days, and the total duration of treatment fourteen days. After the gonococci have disappeared the permanganate irrigations are continued alone. Internal medication is used at the same time, a combination of cystogen gr. v. and ol. santal, m_x being given in capsules every four hours. Cystogen is said to form formaldehyde in the urine and act as a germicide. In chronic posterior urethritis the author practises massage of the prostate *per rectum*. The urethra is then irrigated and one of the above preparations injected into the prostatic urethra with a deep syringe.—(*Brit. Med. Journ.*)

A Contribution to the Study of Anatomy and Physiology of the Prostate Gland, and a Few Observations on the Phenomenon of Ejaculation.—

By GEORGE WALKER, M.D. (*Johns Hopkins Hospital Bulletin*, October, 1900, p. 242).

In a lengthy and exhaustive article, Walker discusses in great detail the anatomy of the prostate, with special reference to some points in its finger histological structure which have not been hitherto clearly elucidated.

Experimental studies were made on the organ in man, the dog, cat, swine, mole, hedgehog, bull and hamster. Most of the work was done on the dog, as human material could not be obtained of sufficient freshness, but the author is convinced that no great difference exists between them.

After describing the various steps in his work, Walker concludes:

1. The prostatic muscle is derived from the longitudinal coat of the urethra and the circular layer of the bladder.
2. Every lobule is surrounded by a circular and a longitudinal coat, so arranged as to expel quickly and forcibly the secretion.
3. The prostatic muscle of the full-grown animal is independent of both urethra and bladder, and is only indirectly in connection with either.

4. The muscle is not so disposed as to compress the urethra, or to act as a sphincter to the bladder.

5. The connective tissue is found in nearly the same amount as in other secreting organs; and is amply sufficient to give all the needed support to the gland, independent of the muscular elements.

6. A membrana propria is present in all cases, and consists of very fine connective-tissue fibers. There is a sheath of longitudinal elastic fibers around the prostatic urethra, from which the outer fibers diverge around the prostatic ducts in a figure-of-8 manner, and thence onward into the glandular substance.

8. In the gland substance a rich elastic mesh-work is seen lying under the cells, with a few extremely fine fibers in the membrana propria.

9. The glandular substance forms about five-sixths of the organ.

10. The cells are disposed in one layer; tall, columnar shaped; have a large amount of protoplasm, and a well-defined nucleus. In the same lobule areas are present where the cells are entirely inactive.

11. Adenoid tissue is scattered at irregular intervals throughout the gland.

Regarding the so-called third lobe, the writer apparently agrees with previous observers in declaring that it is only occasionally present, and does not deserve the name of a third lobe.

The whole muscular structure of the organ is arranged primarily to compress the prostate, and not to act as a vesical sphincter, as many anatomists, notably Harrison, suppose; and the following reasons are given for this view:

1. The anatomical structure of the muscular elements of the organ.
2. In the cat, and a number of other animals, the organ is situated at quite a distance from the bladder.
3. In the hedgehog, mole and other animals of this class, it is above the urethra, and extends outward and away from it.
4. Horses and swine, which are commonly castrated in youth, do not suffer from incompetent bladders.
5. In females the gland is absent, and no representative muscular structure is present; if its function were that of a sphincter, it would be found in them, even as in males.
6. Men in whom there is want of development, or atrophy of the gland, do not suffer from incontinence of urine (Griffiths).
7. If the muscle were connected in function with the bladder, it would not so completely atrophy after castration.

The author mentions the views held by various writers as to the function of the prostate; some have gone so far as to assert that it has not sufficient glandular function to warrant the use of the term gland, while others maintain that as a gland it fills a very important office. In order to throw some light on this subject he instituted a series of experiments on dogs, which were killed by a blow on the head. The testes and prostate were removed and laid in a warm, moist oven. The semen was first examined alone, from the testicular substance, globus major, globus minor, and vas deferens; secondly, with a mixture of prostatic juice; and thirdly, with normal salt solution.

He found:

1. In the testicle proper there was no movement of the spermatozoa.
2. In the globus major, no motility.
3. In the globus minor slight movement of a few organisms, where the fluid was thin.

4. In the vas deferens slight motion in the portion where the liquid was thin; in the thick parts, which composed the largest bulk, there was no movement.

5. In a mixture of prostatic juice and semen from the substance of the testicle, there was distinct but not lively motion.

6. Semen out of the epididymis with prostatic juice showed lively motility, which continued unabated for some time.

7. Semen from the epididymis with normal salt solution gave lively movement, in the places where a mixture had occurred. In other areas where the liquid was thick no motility was apparent. The same was also true of the prostatic mixture.

The production of the immediate movement is explained by a thinning of the fluid, and not by a distinct stimulating influence of the prostatic juice. For the continued motility more is necessary than the mere thinning of the fluid; for in the salt solution all movement ceases after three hours, whereas in the prostatic juice it continues over twenty hours.

The following conclusions are arrived at:

1. The immediate production of motility of the organisms is induced by a thinning of the testicular secretion with the prostatic juice.

2. The continued movement is probably kept up by substances in the prostatic fluid, that either act as stimulants or as food for the organisms.

3. Unless a homogeneous mixture is made, thick portions remain, where there is no movement.

4. It therefore follows that as the dog has no seminal vesicles, and the gland of Cowper is very insignificant, the function of furnishing a fluid, in which the spermatozoa can freely move, belongs entirely to the prostate gland. It then becomes apparent that the organ is almost as important as the organisms themselves.

The two fluids are mixed together by the beautiful anatomical arrangement of the ejaculatory and prostatic ducts about the crest of the caput gallinaceum. The ejaculatory ducts empty on the crest of the caput and the prostate by from thirty to forty openings in the urethral wall. The prostatic ducts all converge toward the caput and are so directed as to eject their secretion toward the openings of the ejaculatory ducts. Thus as the semen is being poured out, thirty to forty streams of prostatic fluid are ejected into it, both fluids becoming thoroughly mixed together.

The semen is thus ejaculated forcibly into the urethra in the direction of the membranous part. It does not pass backward into the bladder, because the manner by which it is ejaculated gives it a forward impulse. Secondly, because the neck of the viscus is closed by its own sphincter; and thirdly, because the anterior part of the urethra dilates and draws the fluid forward.

The article closes with the following conclusions:

1. The verumontanum does not prevent the entrance of semen into the bladder.

2. The semen is prevented from passing backward into the bladder by the contraction of the so-called sphincter of Heule.

3. The prostatic ducts are so arranged that they eject their fluid directly into the outpouring testicular secretion, thus producing a homogeneous mixture.

4. The longitudinal fibers of the sphincter membranaceæ urethræ dilate the outer half of the membranous and a portion of the bulbous, urethra; and by this means draw the semen from the prostatic portion.

5. During the last act of ejaculation the orifices of the prostatic and ejaculatory ducts are closed, and their respective fluids put on much tension; so that at the moment of relaxation, a sufficient quantity of semen is poured in for the next emission.

6. The sphincter membranaceæ urethræ aids, not only in carrying the semen along the urethra, but helps very materially in expelling it. A. L. W.

On Fifty-three Operations for Stone in the Bladder.—By P. J. FREYER, M.A., M.D., M.Ch., (*British Medical Journal*, Oct. 6, 1900, p. 1014).

Of the last 400 operations for stone performed by Freyer, in all ages ranging from 1½ to 90 years, there were 13 lithotomies—namely, 4 suprapubic, 8 perineal, 1 vaginal, and the remaining 387 cases were all litholapaxies. Almost every other form of operation has been abandoned by the author in favor of Bigelow's, as he thinks that in the vast majority of cases it is the only operation justifiable.

With large stones of two ounces and upwards any operation must be undertaken with less confidence than where the stone is moderately sized or small.

The author reports fifty-three cases of large stone operated on, as follows:

Suprapubic lithotomies, 4; mortality, 2 (50 per cent.); perineal lithotomies, 14; mortality, 4 (28½ per cent.); litholapaxies, 35; mortality, 4 (11⅓ per cent).

Of the litholapaxies the average age of the patients was nearly 53 years, or nearly ten years greater than that of the lithotomies, and about double that of the suprapubic cases. In the last cases, however, the average weight of the stone was twice that of the other two varieties. Litholapaxy also shows a shorter period of treatment after operation than the other forms, namely, eleven days, as against thirty and thirty-four after lithotomy.

Stricture is no bar to litholapaxy when the stone is of moderate dimensions. The stricture is cut internally or rapidly dilated just before the main operation. When stricture co-exists with large stone lithotomy is to be preferred, because of the necessity of repeated introduction of the instrument over the wounded urethra.

Nor does hypertrophy of the prostate bar litholapaxy for large stone, unless it be very pronounced with a tortuous urethra, when the suprapubic operation is advised.

In no case, whether in male or female, adult or child, should a cutting operation be entertained till after examination and trial litholapaxy is found to be impossible. A. L. W.

Treatment of Injuries to the Ureters.—By BYRON B. DAVIS, M.D. (*Journal American Medical Ass'n.*, Dec. 29, 1900, p. 1,669).

DAVIS reports a case in which he performed an abdominal section for the removal of an intraligamentous cyst. After clearing the mass away, "a suspicious looking vessel was found hanging loose in the pelvis," which proved to be the severed left ureter. A small Kelly probe inserted into the opening passed directly into the bladder. The upper portion of the ureter was found within the grasp of a pair of forceps, almost at the median line. The probe inserted into it passed directly into the pelvis of the kidney.

The severed ends of the ureter were united by an end-in-end anastomosis, and the patient made a good recovery, the urine being normal and the lumen of the ureter apparently undisturbed.

The writer believes that many cases of death after intra-abdominal operations may truthfully be changed to accidental injury to the ureter. Suppression of the

urine and death followed an abdominal operation in which both ureters were severed; the true cause of death was only revealed at the autopsy.

End-in-end anastomosis is advised wherever possible. If the distal portion is too short for uretero-ureteral anastomosis, implantation into the bladder should be performed. When there is too much loss of substance to permit uretero-ureteral anastomosis, and the proximal end cannot be brought down to the bladder even with the aid of a diverticulum of the bladder, the least objectionable procedure is implantation into the colon.

The older operation of nephrectomy of the corresponding side has little to commend it; neither is it advisable to ligate the distal end with a view to causing atrophy of the corresponding kidney. Atrophy does not always follow.

A. L. W.

Report of Two Cases of Sclerous Infiltration of the Corpora Cavernosa.—

By A. L. WOLBARST, M.D. (*Therapeutic Gazette*, June, 1900, page 369).

WOLBARST reports two cases, the patients being forty-eight and fifty-five years of age respectively. There was no pain or other subjective symptom, and the patients were not aware of the condition until it was brought to their notice, both having sought treatment for other ailments.

There was no history of gout, rheumatism or syphilis, though one patient had gonorrhea associated with a long-standing stricture. The cause of the affection is unknown, but is stated as being probably "a chronic inflammation of a peculiar kind affecting the erectile tissue at a certain point, and so thickening and stiffening the naturally thin walls of the areolæ (and probably filling up the interspaces with fibrinous exudation) that they cannot be distended with blood during the erection of the rest of the organ." Various forms of treatment are mentioned, but without much hope of success.

The writer also reports a case of *Atrophy of Testis Following Gonorrheal Epididymitis* in the same journal. In this case the patient was twenty-one years old, with no previous history of mumps, traumatism, syphilis, tuberculosis, or malarial fever. Several attacks of urethritis, followed by acute inflammation of the right testis in two of them, form the basis of the patient's history. Atrophy of the testis was noticed about a year after the second attack of epididymitis, and the process continued until at present nothing remains of the testicle but a small round mass, the shape and size of a pea. The patient is highly neurotic.

The various causes of testicular atrophy are mentioned quite fully, and as for treatment, the prognosis is put down as unfavorable, with the suggestion that a celluloid testicle may be made to occupy the place of the departed one for purely cosmetic reasons.

Operation for Exstrophy of the Bladder by Sonnenberg's Method.—By J.

RILUS EASTMAN, M.D. (*Journal American Medical Association*, May 5, 1900, page 1103).

EASTMAN reports a classic case of exstrophy of the bladder in a boy thirteen years of age. The kidneys were in such a condition that rectal implantation of the ureters was not to be considered. The urine from the left ureter contained crystals of the salts of urates and phosphates in great abundance, blood casts, epithelioma, and epithelial and granular casts. Traces of albumin were also present. From the right kidney was much clearer, of little more than normal specific

gravity, and contained a few granular casts and some epithelium. There was continual pain in the left lumbar region.

The Sonnenberg operation was performed. The ureters were detached from the extraverted bladder mucosa, and implanted into a groove made by a median sagittal incision on the dorsum of the dwarfed and clubbed epispadic penis. The raw bladder mucosa was cut away and the margin of the defect drawn snugly together and sutured about the two ureters as they coursed over the symphysis pubes.

The left ureter refused to heal, and finally became gangrenous—the left kidney being then removed with it.

The site of the extraverted bladder is now represented by a tough scar. The right kidney has performed the extra work imposed upon it excellently during the years since the operation.

A. L. W.

A Study of a Case of Gonorrheal Ulcerative Endocarditis, with Cultivation of the Gonococcus.—By A. J. LARTIGAU, M.D. (*American Journal of the*

Medical Sciences, Jan'y., 1901, p. 52).

LARTIGAU reports a case of cardiac infection induced by the micrococcus gonorrhea. He declares that the total number of cases recorded, of a similar kind, in which the proof of the purely gonococcal nature of the endocarditis may really be said to have been fully shown, does not exceed six, including his own.

The case was that of a colored man, twenty years old, admitted to the hospital with loss of speech. No statement was obtained from the patient, but it was learned that urethral diseases had existed for the last eight weeks. Six weeks ago had chills, followed by fever, with recurrences two or three times weekly since then. Was irrational at times and power of speech was lost day before entrance to the hospital.

On entrance, Aug. 4th, nutrition was good; tongue coated, moist, swollen and with impressions along the edge; upper lip swollen and tender; pulse 126, rapid, soft, good volume, regular; radial artery not thickened; respiration 32, temperature 103° F.; no prostration; on left side a single inguinal gland was enlarged and firm. Lungs negative. Apex beat in fifth space in the nipple line; loud systolic murmur, transmitted to the left, was heard at apex; liver not enlarged, spleen not palpable.

Urine, amber, acid, 1020; no albumin or sugar; urea 2.1 per cent.; no casts, pus, or blood.

Next day a purulent discharge appeared. Iodid of potassium, 20 grains every six hours, and mercurial innuitions ordered. (Syphilis was at this time suspected).

Later phimosis developed, circumcision by dorsal incision was performed; upper lip still swollen.

Aug. 9th urethral irrigations with potassium permanganate were instituted.

Aug. 11th, patient drank about eight ounces of a 1.40 solution of carbolic acid from an instrument-dish. Stomach washed out with magnesium sulphate. No harmful effects therefrom.

Condition remained the same for a week. Urethral discharge had stopped and irrigations suspended. Temperature chart showed an irregular curve, ranging from 99.5° to 103.4° F.

Aug. 24th, right elbow joint became swollen, hot, tender and painful. K1 gr. 75 ordered. Three days later swelling disappeared, but some pain and tenderness still persisted.

Blood examination on Aug. 18th showed hemoglölin, 80 per cent.; red cells, 4,106,000; white cells, 11,400; on the 31st it showed hemoglölin, 54 per cent.; red cells, 3,128,000; white cells, 10,800. Emaciating rapidly; pulse between 100 and 150, usually above 130.

Sept. 3rd, temperature rose to 103° F., and to 104° F. on the following day. Patient died Sept. 5th, preceded by epistaxis and mouth-bleeding.

Post-mortem made fifteen hours after death revealed the following diagnosis: Ulcerative endocarditis of the mitral valve, urethritis, acute splenic tumor, with infarctions, cloudy swelling of the liver and kidneys, edema and congestion of the lungs.

The endocardium and valves on the right side present no abnormality. Adherent to the margin of the posterior segment of mitral valve was an extensive and irregular but firmly attached thrombus. At site of attachment the valve is in part destroyed. The chordæ tendineæ of the involved mitral segment also in part covered with smaller thrombi; same true of the papillary muscle.

The floor of the deep spongy urethra presented a small granulating patch covered with a small amount of pus. Brain normal.

Microscopical examination confirmed the gross findings. The infarct of the spleen presented no micro-organisms. The affected portion of the urethra showed losses of epithelium with considerable round and polymorphonuclear-cell infiltration, in the tissue underneath. Considerable numbers of micrococci, arranged in pairs, with the characteristic morphology of the gonococcus, and decolorized by Gram, were present on the surface and in the inflated tissue. Some were noted with an intracellular distribution within polymorphonuclear cells. Other cocci, oval in form and not decolorizing by Gram, were likewise present, having an extracellular position.

The thrombus in the heart consisted of masses of fibrin, some red cells and many leucocytes. Leucocytic infiltration along the margin of the valvular connective tissue was very great.

Tube and plate cultures from the valvular vegetations of the heart, showed the presence of diplococci—often with the characteristic "biscuit" morphology. They decolorized by Gram.

Cultures from the spleen, splenic infarct, lung, kidney and bone-marrow, remained sterile after nine days. Those from the liver, gall-bladder, and urinary bladder produced a pure culture of a bacillus which produced isidol, and which behaved like the bacillus coli communis.

The cultures from the heart's blood all proved negative except one in a single blood-serum tube, in which after forty-eight hours a small gray colony was observed. It consisted of cocci, similar to those found on the valves. They also decolorized by Gram.

Summary of the bacterial findings: Gonococcus in the heart's blood and valvular vegetations, bacillus coli communis in the liver, gall and urinary bladders. Remaining organs sterile.

The conclusions offered are: (1) Gonorrheal urethritis may be the starting-point for a fatal septicemia induced by a pure infection with the gonococcus. (2) Endocarditis and artheritis are occasionally complications of such an infectious disease. (3) The endocardial processes may be incited by the gonococcus without the association of other organisms.

A. L. W.

Epispadic Exstrophy of the Bladder Complete.—By AP MORGAN VANCE, M.D.
(*Journal American Medical Ass'n*, Dec. 29, 1900, page 1671).

VANCE reports a case of a male, seventeen years old, suffering from complete exstrophy of the bladder. The local condition of the parts surrounding the bladder were horrible in the extreme.

By a series of plastic operations (which are illustrated in the original article) which covered a period of two years, a serviceable bladder and penis were constructed, which, at this date, six months after the discharge of the patient, are perfectly healthy, and performing their functions properly. A. L. W.

Local Use of Guaiacol in the Treatment of Frequent, Painful Micturition.—

By JESSE HAWES, M.D. (*Journal American Med'l Ass'n*, Dec. 29, 1900, p. 1678).

HAWES advocates the local application of guaiacol as a remedy for the treatment of painful micturition, especially in those cases in which the cause of the symptom is located in the extreme inner portion of the urethra, usually in a space three-quarters to one and one-quarter inches external to the urethrovesical orifice. The condition causing this prominent symptom of frequent urination should be differentiated from cystitis, prosatic and kidney disease, gonorrhea, contracted prepuce, and stricture of the urethra.

Application of the guaiacol is made on a carrier, having an ovoid of cotton on its point. The urethra is mopped dry, and the application is made through an ordinary urethral speculum of moderate size. Barely enough guaiacol is applied to make a surface application. It acts as an anesthetic and local stimulant. No strangury results. Its use is often followed by a lessening of the perineal and suprapubic discomfort after a few hours, and a few applications repeated at intervals of five to ten days will often prove highly satisfactory.

A number of cases are cited to prove the efficiency of the drug in this connection. A. L. W.

On the Best Method of Removing Large Stones from the Bladder, with Notes of a Case.—By S. H. BURTON, M.B., F.R.C.S. (*British Medical Journal*, Oct. 6, 1900, p. 1012).

BURTON reports a case of stone in the bladder of a man, aged thirty-five, who suffered from severe pain, frequent micturition, hematuria, and general incapacity for work. Diagnosis of a large stone was made by the sound, as also per rectum. Suprapubic lithotomy was performed. A four-inch median incision was made over the distended bladder, and the viscus opened for three inches. A finger in the rectum assisted in dislodging the stone, and it was removed by large lithotomy forceps. The bladder was then closed except for three-quarters of an inch near lower part of its wound by interrupted sutures of gossamer fishing gut, the edges of the recti brought together except for one and one-half inches, and a tube inserted, but not into the bladder.

The stone weighed ten ounces five drachms, and showed a uric acid nucleus, and consecutive layers of oxalates, phosphates, uric acid and phosphates in the order named.

After the operation the bladder was washed out daily with iodoform emulsion

(gr. iss to 3i) and the patient improved steadily. A fistula then formed through the breaking down of the suprapubic wound. A catheter was tied in and irrigation was resorted to.

One hundred and seven days after the operation the patient had severe pain in the right loin, temperature 103.4°, and vomiting. Pyelitis had set in; and seven days later the right kidney was cut down upon, the pelvis opened and a large quantity of offensive pus evacuated, besides a large number of small lithic stones removed by a scoop. The patient gradually deteriorated, and six days after the nephrotomy he died, four months after the lithotomy.

The author, in reporting this case, cannot understand the cause of the pyelitis, as every care was taken in the matter of antiseptics, both in the treatment of wounds and of catheters. The secretion from the pelvis of the kidneys, which at one time had been very foul, and had never become aseptic, is put down as the probable cause.

In discussing the best method of removing large stones from the bladder, the author declares that the suprapubic operation offers no special danger. The peritoneum ought to escape being wounded, and if it is opened can be stitched at once, and the operation carried out. The condition of the kidneys and their pelves really decides the issue of operation in protracted stone cases; but this condition cannot be determined accurately.

In the particular case reported, the author claims that the suprapubic method was a success, even though the patient died four months after the operation, inasmuch as the autopsy revealed diseased kidneys.

The advantages of suprapubic lithotomy are that the bladder can be opened freely, and examined fully in an almost bloodless manner, and a stone of any known size removed with least disturbance to the patient, and in cases of enlarged prostate these advantages are accentuated. The disadvantages are that the wound may be long in healing, and that occasionally phosphates crust on the scar, reproducing another stone.

For perineal lithotomy the advantages claimed are that the bladder wall is not cut, and the bladder neck is incised only enough to admit the finger, and afterward the lithoclast, and the opening is dependent. The disadvantages are the frequent instrumentation during the operation, and the disturbance of the bladder neck by removal of the fragments; the injury to the mucous membrane of the bladder by the instrument, when the bladder is encrusted around a large stone; these disadvantages are increased when there is a large prostate, or in a big man with a deep pelvis, and where the kidneys and ureters are diseased, owing to chronic dilating and infective changes, the danger of setting up acute pyelitis and nephritis is increased in proportion to the amount of manipulation. The suprapubic operation is strongly recommended as the best for large stones.

A. L. W.

VENEREAL DISEASES.

A Method of Treating the Primary Lesion of Syphilis. Clinical Observations.—By PROF. LEONE LEVI (Genoa) (*Arch. f. Der. U. Syph.*, Vol. 54, p. 226, 1900).

Another new method for the treatment of the initial lesion of syphilis, with the aim of eradicating, or at least of influencing, the course of syphilis.

The method consist of cauterizing the lesion with a thin piece of platinum,

shaped in the form of a horseshoe, and heated white hot by means of a battery. Not only the syphiloma, but the surrounding seemingly healthy tissue, is also cauterized. Cocain can be used to diminish the pain. The advocate of this method applies the cauterization "five hundred or a thousand, and even more, times" (p. 228), as long as it is necessary, *i.e.*, until physio-pathological changes, in the form of an extensive local inflammatory reaction, will take place in the region of the syphiloma. He graciously leaves the "scientific explanation of the mechanism of the action of his method to the pathologist" (p. 228). He, being only a clinician, presents only the clinical aspect. If the cauterization is carried out in a thorough manner, good results will be obtained; "the infection remains local, and does not turn into a general disease."

At this conclusion he arrived from the observation of thirty-two cases, in whom the diagnosis of the primary lesion was made by him, in some cases by confrontation, and in other cases it could not be made with certainty. In some of these cases after cauterization the infiltration of the inguinal gland was diminished. In others, where the nutrition was poor, "slight syphilitic manifestations appeared after six months"; and in three other cases only a single condyloma ad anum, two small papules on the tongue, and slight pharyngitis, respectively, manifested themselves (p. 233).

Syphilis of the Second Generation.—PROF. A. T. POSPELOW (*Arch. f. Derm. u. Syph.*, Vol. 55, 1901, p. 163).

The question of syphilis of the second generation has been raised at the last two International Congresses. The observations of French writers show that various dystrophic changes, especially a general atrophy, plays an important part, and this change is usually not taken into account by the observing physician. Outside of this general atrophy nothing peculiar to or characteristic of syphilis is seen in the tissues or organs of such children. They die, as the French writers say, "de rien."

The gross anatomical changes seen in children with hereditary syphilis in the first generation are absent in syphilitic children of the second generation. Abortions, still-births are not seen in syphilitic children of the second generation. They usually do not show any visible changes in the first (2-4-6) months after birth, sometimes even seem to be in good health in the first 2-3-5 years. Only after this period they begin "without cause" to lose flesh and their physical and mental growth is checked. They grow paler, feebler and less liable to withstand injuries.

The author reports a striking case of a thirteen-year-old child, whose father denied a personal specific history, but presented signs of hereditary syphilis—Hutchinson teeth. The child presented characteristic Hutchinson teeth, was undersized and had a perforation of the septum and crateriform gummata of the hard palate.

Culture of the Bacillus of Chancroid.—By BEZANCON, GRIFFON and LE SOURD (*La Presse Médicale*, December 12, 1900).

The authors have grown the bacillus of Ducrey on artificial media, composed of rabbits' blood and agar. Pus from the initial lesion, from a lesion at inoculation, and from chancroidal bubo were employed successfully.

The colonies appeared in twenty-four hours, and are fully developed in forty-eight hours. On the ordinary media all attempts at culture failed.

The vitality of the organism lasts through many generations, and it was found active after many transfers.

The description of the bacillus agrees with that of Ducrey. Further details will be watched with interest. A. L. W.

NOTES.

For the second time in our experience we have been compelled, by deliberate theft of the JOURNAL'S abstracts without credit to the original source or to it, to cut off one of our American exchanges. This example was particularly unblushing, as the perpetrator put his own name at the top of the selection. "Under Charge of A. P. Woodward, M.D."

ERRATA.

Page 209.—In Dr. Engman's article on Lichen, May issue, William Dermatological Club should read Willan in foot-note.

Page 213.—On fourteenth line from bottom of page the word "branch" should be broach; and the third line, the word "in" should be from.

Page 214.—Eighth line from top of page, "become" should be became; seventh line from bottom, third word should be acanthosis.

Page 220.—Eighth line should read "gradually lessens as the center is approached."

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Original Communications.

SARCOMA AND THE SARCOID GROWTHS OF THE SKIN.¹

BY JAMES C. JOHNSTON, A.B., M.D.,

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(From the Laboratory of Cornell University.)

THE object of this paper is not so much to present the results of original investigation, although the illustrative cases are unique in certain features, as to bring about, if possible, an agreement in the consideration of the subject of sarcoma in dermatological and general pathological literature. There is wide variance at present. Pathology takes no notice of the peculiar growths the skin presents, and dermatology ignores work outside its own field, so that the task is not easy. Literature on cutaneous sarcoma is more than abundant, authors' opinions are often diametrically opposed, and some of the cases reported are useless through indefinite wording or open to question from misconception of their nature. I have made no pretense of an encyclopedic review of works on this neoplasm.

The etiology of the entire class of sarcoma and its congeners is unknown. No advance in this regard has been made since the first member was described except that it is now fairly safe to deny a rôle to any micro-organism known. The statement that the sarcomatous process

* Read before the Buffalo Academy of Medicine and the American Dermatological Association.

is a perverted repair is only begging the question. The cells themselves are parasitic, and literally prey upon their host.

This basis of the classification used here is histogenetic solely. In the present state of knowledge, embryology furnishes no solid ground for any arrangement of tumors. On what seems reasonable premises I have divided sarcomatous neoplasms into three groups: (1) Fibroblastic (true) sarcoma, (2) the lymphoid celled class, and (3) sarcoid growths. I shall review only so much of the symptomatology as is necessary to a clear comprehension of the condition in point, its histology, its probable relationship to other members of the class and its treatment. Endothelioma is excluded because, arising from lining cells, it is in no sense a connective tissue.

I. FIBROBLASTIC SARCOMA.

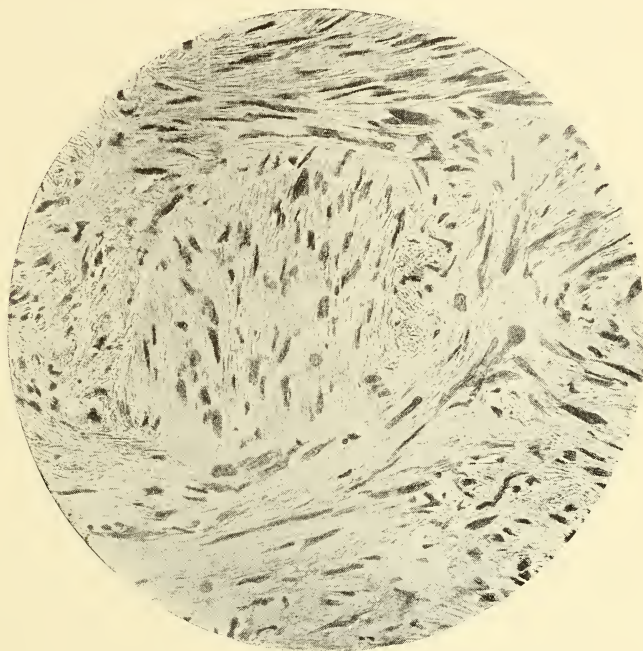
GENERAL CONSIDERATIONS.

Symptoms.—Sarcoma is primary, as in the cases reported here, or forms metastases in the skin from internal foci. In either case the neoplasm may be single or multiple, pigmented in varying degrees or perfectly white. It develops either in the corium or in the subcutaneous tissue (when the skin is freely movable over it) and depending on the direction of its growth is seen clinically in the form of flat plates or nodules which are more or less elevated and in rare instances pedunculated. The size varies greatly, from a quarter to several inches in diameter, with perhaps a projection above the surface of two inches or more. In case of injury or from spontaneous necrosis, ulceration occurs, and in course of time the ulcer may take on a fungoid appearance. The course is quite as variable as the clinical picture. Certain spindle-celled and myxomatous growths, the former indistinguishable from others rapidly fatal, are not only indolent, but apparently remain localized for life. There is no clinical sign by which to distinguish the cellular varieties of sarcoma.

Primary disease may appear at the site of an old injury such as a boil (Kaposi) or a scar (fibrosarcoma, Fig. 1), but tissue injury is not a necessary precedent. Hutchinson's melanotic whitlow, of which more is heard in Great Britain than in America, is a sarcoma of the peri-ungual fold. A clinical picture has been several times described in which a parent tumor, it may be a mere pigment spot on the skin, is seen surrounded by a number of daughter growths from which dissemination may be extremely rapid. Sarcoma sometimes pursues an extraordinary course as in the case recently reported by Iwanoff.¹

The neoplasm was a generalized round-celled one, probably secondary to a breast growth, which followed for two months its usual course, with cachexia, then suddenly developed a condition resembling an acute infection, which terminated fatally in three weeks. At autopsy there were found besides metastases an hypertrophied spleen, fatty degeneration of the liver, kidneys and heart, and a general arterial thrombosis which was neither septic nor neoplastic. No organisms could be demonstrated during life or after death, and the author is in

FIG. I.



Fibrosarcoma.

doubt whether an acute infection was present or the sarcoma itself produced symptoms of systemic poisoning.

True pigmented sarcoma arises in one of two situations; in the cutis, in spite of contrary statements, or in the choroid. Musser² has reported an interesting case of multiple cutaneous metastases from the eye. A primary pigmented tumor may be multiple and its rapidly growing internal deposits, which may far outstrip the parent growth, should not be regarded as the original foci. (The author is not confusing this variety with tumors developing from nævi, which he regards with Unna and his followers as generally of epithelial origin.

It is conceivable that they may, however, arise at times from endothelium. Sight should not be lost of the fact that Lubarsch's doubts as to their carcinomatous character are shared by many others.)

Prognosis depends, aside from a history of indolence and absence of metastasis, on certain histological features to be discussed later, the type of cell, the blood supply, amount of intercellular substance, and presence of encapsulation and pigment. It is my belief that all pigmented sarcomas, when that pigment is autochthonous, are malignant from the beginning. The difficulties in this connection are readily understood since it is common knowledge that sarcoma may change all its characters within a week, but, in general, all rapidly growing neoplasms of this nature, not myxomatous, with little intercellular substance and infiltrating the surrounding tissue, are of the gravest prognosis. Fibrosarcoma and myxosarcoma are sometimes benign; the general rule is that metastasis from them is late. Encapsulation betters the outlook by preventing spread. A sarcoma seems to grow as easily with a rich as with a poor blood supply in certain instances, but ordinarily when it is abundant, with vessel walls not fully formed or absent, growth is rapid. Spontaneous involution is sometimes seen. As to the cell type, the further it departs from the fibroblastic form (barring giant cells) the more malignant it is.

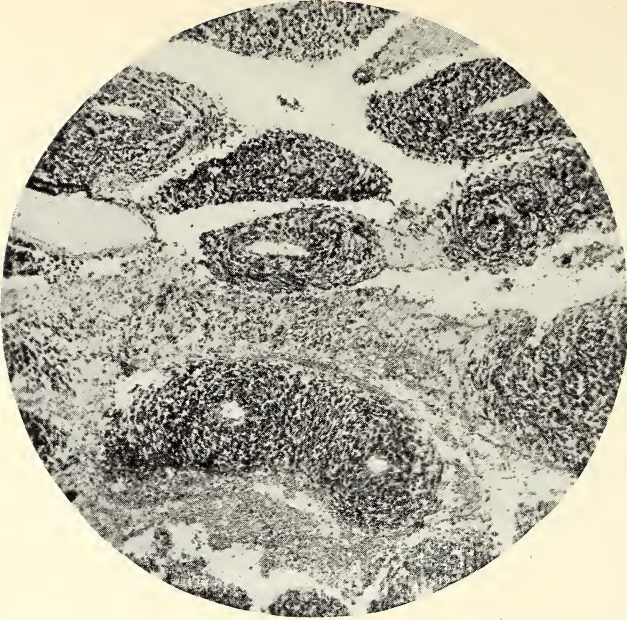
Histology.—Sarcoma is ordinarily divided according to the type of its cells into spindle (fusocellular, Unna), round and myeloid or giant-celled forms. Giant cells may occur in either of the first two types, rarely appear as constituting even the major portion of a tumor, and have no special significance except that when abundant their number points to a bony origin. (See also Buxton.²) They are probably developmental anomalies in every instance, even in myeloid tumors, their appearance being due to altered nutrition or simply the presence of foreign bodies. Dubreuilh and Venot³ have described a sarcomatoid growth in which giant-cell formation was due to the presence of minute fragments of oyster shell, and cite another in which the same appearance was caused by particles of nettle. These discoveries are vastly suggestive. Spindle and round cells are capable of direct transformation, one into the other, so that in reality there is one sarcoma which originates from the fibroblasts either of the adventitia of vessels or of ordinary connective tissue. I will not venture to assert that at the outset all sarcoma cells are spindles, but it seems probable. The type of cell from which a growth takes its name may be perfectly preserved throughout, or may change in the same tumor so that its cells appear spindle in one part and round in another. This anaplasia is illustrated in the following case:

FIG. 2.



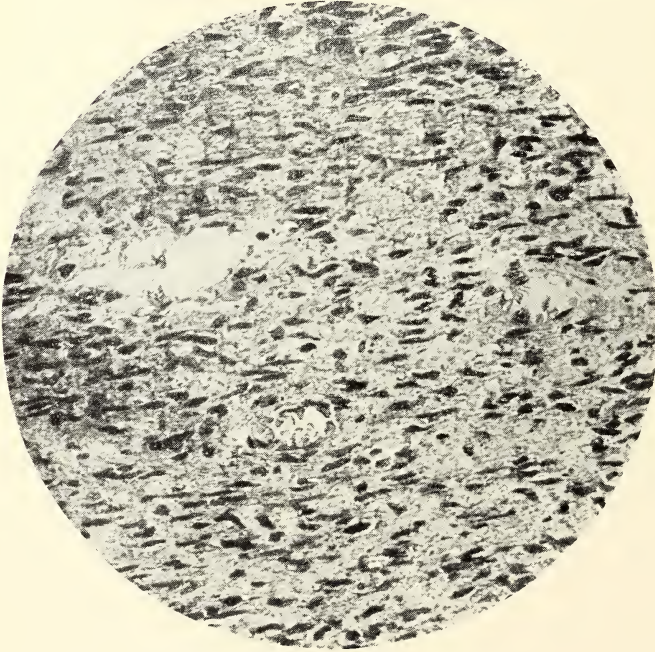
Case I. Perithelial Sarcoma. Metastasis in lymph node, showing perithelial arrangement below and round-celled growth outside capsule. A little lymphoid tissue to left. x 10.

FIG. 3.



Case I. Perithelial, spindle-celled sarcoma, vessel lumen showing in cell masses. Lymph node metastasis. $\times 25$.

FIG. 6.



Case II. Myxosarcoma. $\times 250$.

CASE I. *Perithelial Sarcoma*.—Male, aged forty-seven. Numerous warty tumors scattered over cutaneous surface, two of which showed on examination fibrous tissue only. Two years ago he fell through the floor, and injured the forearm just at the site of a large pigmented nævus. Two months after the accident, axillary nodes became enlarged. Ten months later, a swelling about the size of the palm of the hand gradually made its appearance a little below the axilla. On October 1, 1901, this was removed with the glands, but in one month's time recurred in axilla. The growth was promptly excised, but in the meantime a tumor, the first sign of which was evidenced in July, 1900, in the form of pain, developed in the abdomen.

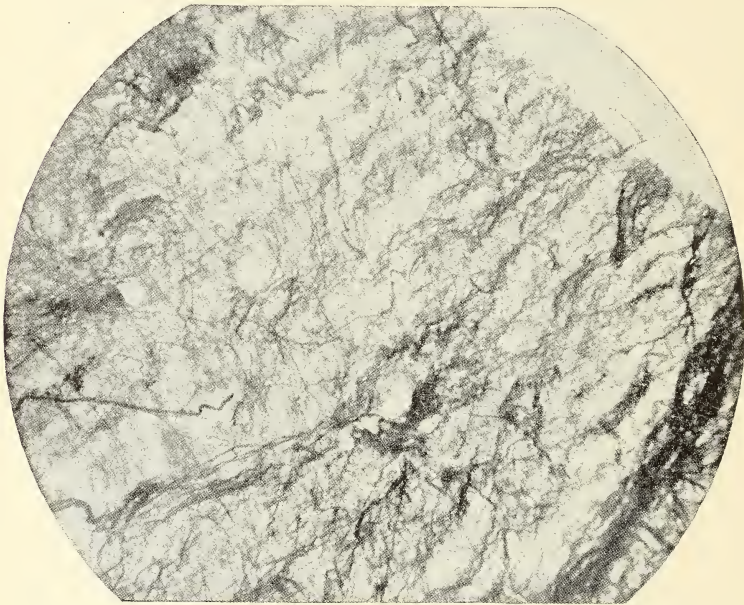
The specimen is from one of the lymph nodes removed at the second operation. The lymphoid tissue is almost entirely replaced by new growth within the capsule, which consists of numerous, probably newly formed, vessels, surrounded by thick sheaths of tumor cells. They are arranged with their long axis generally pointing to the lumen of the vessel and are fibroblastic* spindles, with oval, vesicular nuclei and poorly staining protoplasm. The reticulum is everywhere evident under high power. At one point, the capsule has ruptured, and the cells, released from any restraint, have assumed great proliferative activity, with complete change of form. The transition is easily followed from spindles into large round cells, with hyperchromatic nuclei and acidophile protoplasm, little intercellular reticular formation and few vessels. Rapid growth has by pressure obliterated the blood spaces at points, and caused necrosis. There is no trace here of the perithelial arrangement within the node, and very likely, also, of the original growth. This case illustrates another point: that it is not safe to generalize to the extent of saying that all neoplasms arising from nævi are carcinomatous. (Figs. 2 and 3. Case from General Memorial Hospital, for the use of which, as well as all of the accompanying photographs, I am indebted to Dr. B. H. Buxton.)

Reference has just been made to the presence of a fine fibrillar network between the cells. This is the sarcoma *reticulum*, present to a greater or less degree in every sarcoma, and a product of the activity of its cells. Its formation indicates clearly their fibroblastic derivation. The fibrils are best demonstrated by a fresh Van Gieson (picrofuchsin) stain, and under a high power. In a balsam mount the stain disappears from the reticulum after a very few days. W. C. White⁴ has shown its presence by Mall's modification of Spalteholz's⁵ method beyond any possibility of doubt, in serial frozen sections, each alternate one being digested in pancreatin, the next stained as usual. The cells disappear after digestion, leaving the intricate network intact, and

showing the fibers at times converging to a central focus, doubtless some particularly active cell (Fig. 4). The reticulum should not be confounded with remnants of preëxistent collagen which sarcoma destroys as it advances, although the new material appears from its staining to be composed of the same substance. The reticulum is *entirely absent between the cells* of both carcinoma and endothelioma, a valuable differential point.

Pigment may be autochthonous; that is, probably elaborated *in loco*, in stable combination with the cell protoplasm, and set free only with

FIG. 4.



Sarcoma Reticulum. Reproduced from White's illustration in "Johns Hopkins Hospital Bulletin" through kindness of its editor.

the death of the host, or hemorrhagic from capillary rupture. In either case it is both extracellular and intracellular, but hemorrhage is usually evidenced by the presence of red corpuscles outside the vessels. Autochthonous pigment is always granular, and Perl's test shows no iron. Blood pigment gives the blue reaction at once. New vessel formation, part of every sarcoma, will be considered elsewhere.

Theory of Growth.—Adami's theory⁷ of the "Causation of Cancerous and Other Growths," adapted to the sarcomas, works out even better than in epithelial tumors, it seems to me, although its distin-

guished author has not carried it so far. The function of the fibroblast is that which its name indicates, of course, and its office is never wholly forgotten, even in rapidly growing, round-celled neoplasms. The reticulum is the result.

So long as a cell maintains its physiological function, its "habit of work," it is innocuous, but when that function is laid aside for a regenerative activity, "habit of growth," a tumor is formed, malignant or benign as the surrounding tissue is invaded and destroyed and metastases appear, or not. The fibroblast is not highly specialized, and the assumption of the habit of growth is natural under certain circumstances (process of repair).

When, however, as a result of irritation or other conditions which cannot be explained, the growth begins and spreads by contiguity or through the lymph channels, the activity is no longer physiological. If the habit of work is strong in the fibroblasts, a fibroma or (at least) a fibro- or myxosarcoma results; if not, a round or spindle-celled tumor with little intercellular substance. This theory explains the well-known connection between sarcoma and scar formation, to say nothing of fibroma and its malign relative. I have sections from a sarcoma arising in a cicatrix, in which the gradual transition from normal fibroblast to tumor element is very clear. As a corollary to the idea here presented, it may be said that the greater the amount of work done by the cell, the less energy it has to put into growth, consequently the less malignant the tumor. We should expect to find fibroma, fibrosarcoma and myxosarcoma more or less benign, which is true. They spread slowly, or not at all, and metastasis is rare. Very richly cellular neoplasms are nearly always malignant. Again, the further the sarcomatous cell departs from the fibroblastic type (barring giant cells, which are of no significance except for diagnosis) the more malignant it is, for the reason that it is more incapable of function and more given to regeneration. Unlike carcinoma cells, reversion, histologically complete, to the embryonic connective tissue type, does not entirely preclude function in the shape of fiber formation in sarcoma.

Spindle-celled Sarcoma, primary or secondary, pigmented or not, shows two types of cells, in a pure or mixed state, large and small. The terms are relative, but it is not usual to find extremes in the same growth. It seems hardly possible, as Unna says ("Histopathology"), that spindle cells develop always from the adventitia of vessels. I am inclined to think that such an origin is more liable to produce, ultimately, a round-celled tumor, as in Case I., by anaplasia, but in all such growths the process of transition must be followed, and the retic-

ulum demonstrated before they can be called sarcoma. Perithelial tumors may arise from perivascular lymph spaces, also, and morphologically their cells may be epithelioid and indistinguishable from fibroblastic round cells. An additional point of differentiation lies in the fact that endothelioma is intercellularly avascular. Fordyce⁸ and Wolters⁹ have reported, with illustration, typical examples of perithelial sarcomas and endotheliomas, the spindle-cell type being pure in the former. Winfield's¹⁰ case is a multiple hem-lymph-angiosarcoma, new formation of blood and lymph spaces, with proliferation of fibroblasts.

There appears no reason for doubting that connective tissue corpuscles, other than adventitial, are capable of taking on malignant action. The intercellular substance is always more abundant than in other sarcomas, and is in evident relation to the cells, sometimes seen to be continuous with them. It is hardly possible to mistake the new reticulum for collagenous material partly destroyed by the growth. In alveolar and fibrosarcoma, this relationship is particularly striking. At times even a rapidly growing spindle-cell sarcoma, in addition to the network, will elaborate a mucoid substance, which, although the resemblance to myxoma is remote, is called myxosarcoma. The basophilic clear material lies with the fibrils between the cells, and is evidently a secretion, not a degeneration, for the tumor elements are unchanged. The onus of this additional work, while it does not limit the proliferative activity of the cells, keeps their malignancy in bounds. Myxosarcoma is almost benign.

CASE II. *Myxosarcoma*.—The patient is a domestic, of English extraction, thirty-one years old. The history is somewhat indefinite, but the area, which shows in the photograph (Fig. 5) atrophic scarring, with sessile nodules here and there, she says, has been present since birth; the large tumor has developed in four months. No mention is made of irritation or injury. The process covered an area, $3 \times 2\frac{1}{2}$ inches on the inside of the thigh. There was no pigmentation and no ulceration, except at the summit of the large mass, where the epidermis had entirely disappeared. The flat surface shows numerous puckered, atrophic spots, where evidently previous growths have undergone regression. The skin is adherent to the scars and sessile nodules. On section the growth is seen to be everywhere limited by the subcutaneous fat. It is white, soft and traversed by numerous vessels. The large mass is cylindrical, an inch and a half high, by one in diameter, with a condensation capsule about its lower edge and sides. There were no metastases.

The cellular form is single throughout, a rather large spindle, with an unusual uniformity in size. The cells bear no particular relation to

the blood vessels, which are numerous, especially near the surface, and fully formed as to lining, so that there is no hemorrhage. Mitoses are fairly common, as would be expected in a tumor of rapid growth. There are no round or giant cells. The limiting capsule shows a beginning change of its fibroblasts into spindle cells. In the central, presumably older portion, evidence of cell division is less common, and in places the cells are separated from each other by spaces filled with a substance which, in sections stained with hematein alone, take a

FIG. 5.



Case II. Myxosarcoma. Gross appearance. Reduced about one quarter.

slightly blue tinge. With picrofuchsin and a high magnification, very fine fibrils stained red are seen traversing the spaces. This is the sarcoma reticulum, and the fact that it takes an acid dye prevents its being mistaken for mucin precipitated by alcohol. In the peripheral portions the cells are more and more closely packed as the capsule is approached and run in bundles without order. The growth begins in the reticular layer and remains limited to it, except where ulceration has occurred. (Fig. 6.)

Blood-vessels in sarcoma, even when of fair size, show a simple

structure, a lining endothelium, with perhaps a little subendothelial connective tissue. When growth is rapid, this lining may wholly disappear, and vascular spaces are walled by spindle cells, a condition which admits of free interstitial hemorrhage and consequent pigmentation. In other tumors (I have never seen this anomaly in any organ except the skin) endothelium proliferates with the fibroblasts, and presents the condition illustrated by the following case:

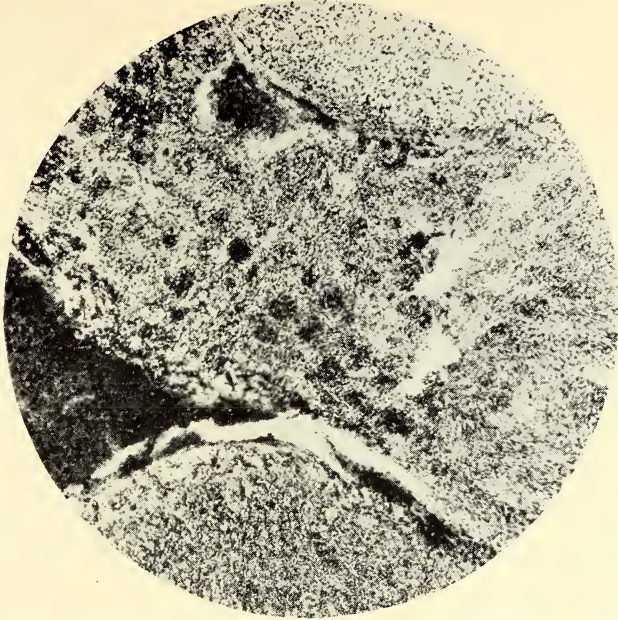
CASE III. *Spindle-celled Sarcoma, with Endothelial Proliferation.*—

The tumor was a solitary growth of long standing, in a woman of fifty-six. It was about the size of a hazelnut, unpigmented, with an irregular surface, which led the surgeon who removed it to call it a "papilloma." The epidermis dips, in places, into deep sulci. There is no mention of metastasis. Histologically, the tumor is a spindle-cell sarcoma of the corium of peculiar appearance. With a low power of the microscope there is a regular dotting of the field by dense clusters of cells, which seem at first an artefact, but their regularity and constant appearance precludes this notion. The sarcoma cells generally radiate from these foci, very loosely arranged with wide spaces at the greatest distance from the points referred to. This spacing may have been produced by the hardening process, because it is not present everywhere, and there is no mucinous material as in Case II. Chief interest attaches to the focal points. The cells in them are arranged in whorls, concentrically, as in endothelioma of the dura. They are spindle-shaped from pressure, with nuclei more diffusely stained than the sarcoma cells, and are limited peripherally by a fibrous membrane, which, it may be said, is sometimes difficult to demonstrate (Fig. 7). This appearance is seen also in Kaposi's pigmented sarcoma, but not regularly. These whorls are probably lymph spaces, for the blood-vessels are fairly numerous. The reticulum is present between the sarcoma cells only. (I have shown these sections to the members of the Cornell pathological staff, and to Professor Adami, of Montreal, who agree with my interpretation of the findings as to proliferation of endothelium.)

Mitosis is more common in spindle-celled than in any other form of sarcoma. Rapid growth, so long as the spindle type is maintained, is conducive to their appearance. When division is to occur the cell becomes elliptical, and its protoplasm has a distinctly greater acidophile tendency. Nuclear division takes generally the bipolar form, but at rare intervals it is tripolar. Figs. 8 and 9 illustrate these points well, as to shape and nucleus. Tripolar division may be an early stage of giant-cell formation, but I think it unlikely.

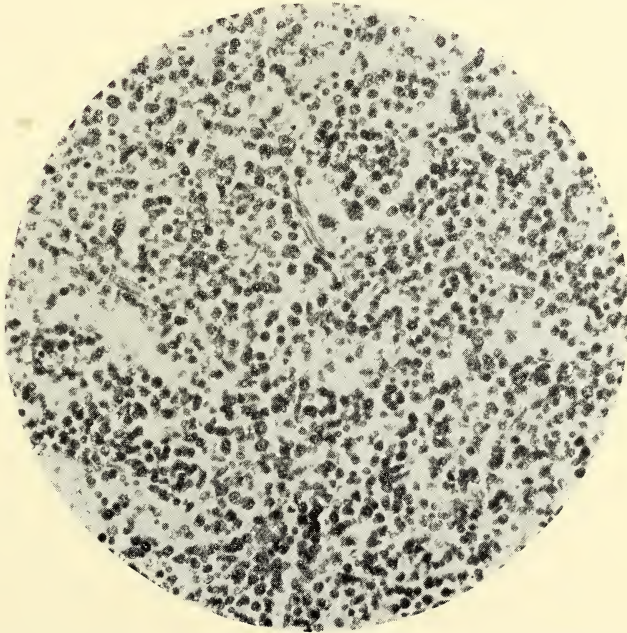
Round-Celled Sarcoma.—The large and small varieties are so different that they cannot, like the spindles, be described together.

FIG. 7.



Case III. Spindle-celled sarcoma with endothelial proliferation in whorls. Large vessel to left. x 75.

FIG. 11.



Case IV. Small Round-Celled Sarcoma. Epithelioid Fibroblasts with Reticulum. x 250.

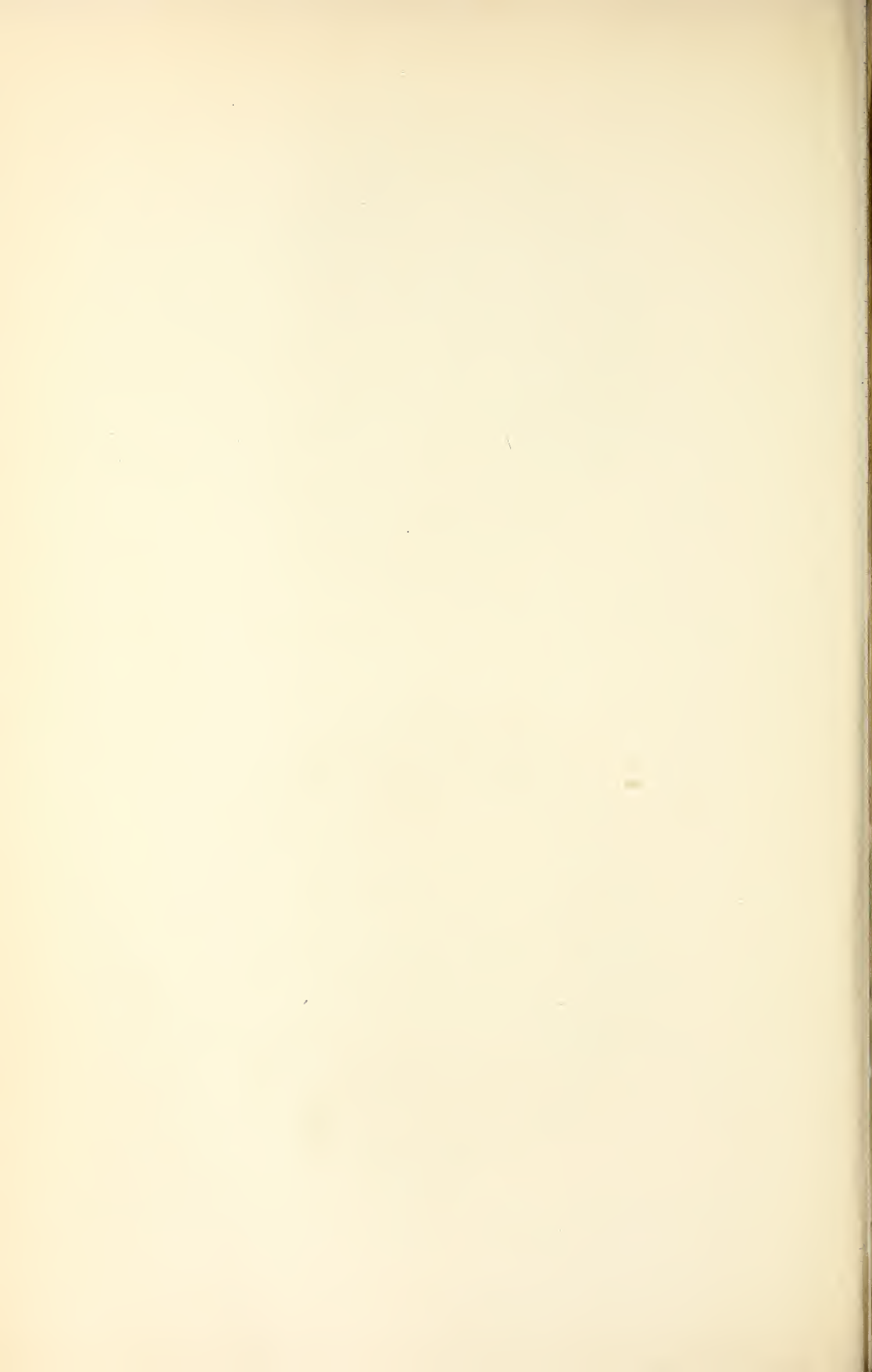
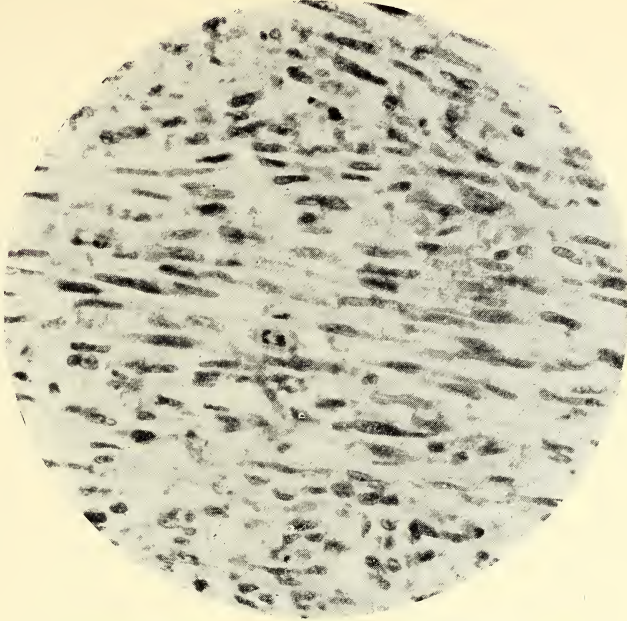
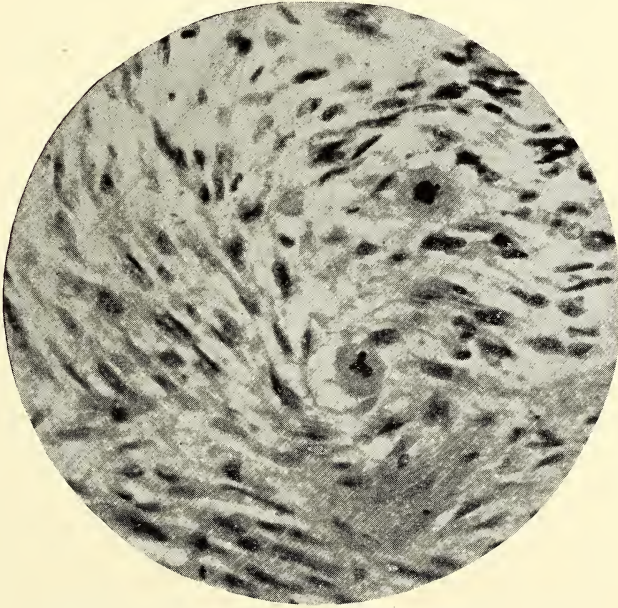


FIG. 8.

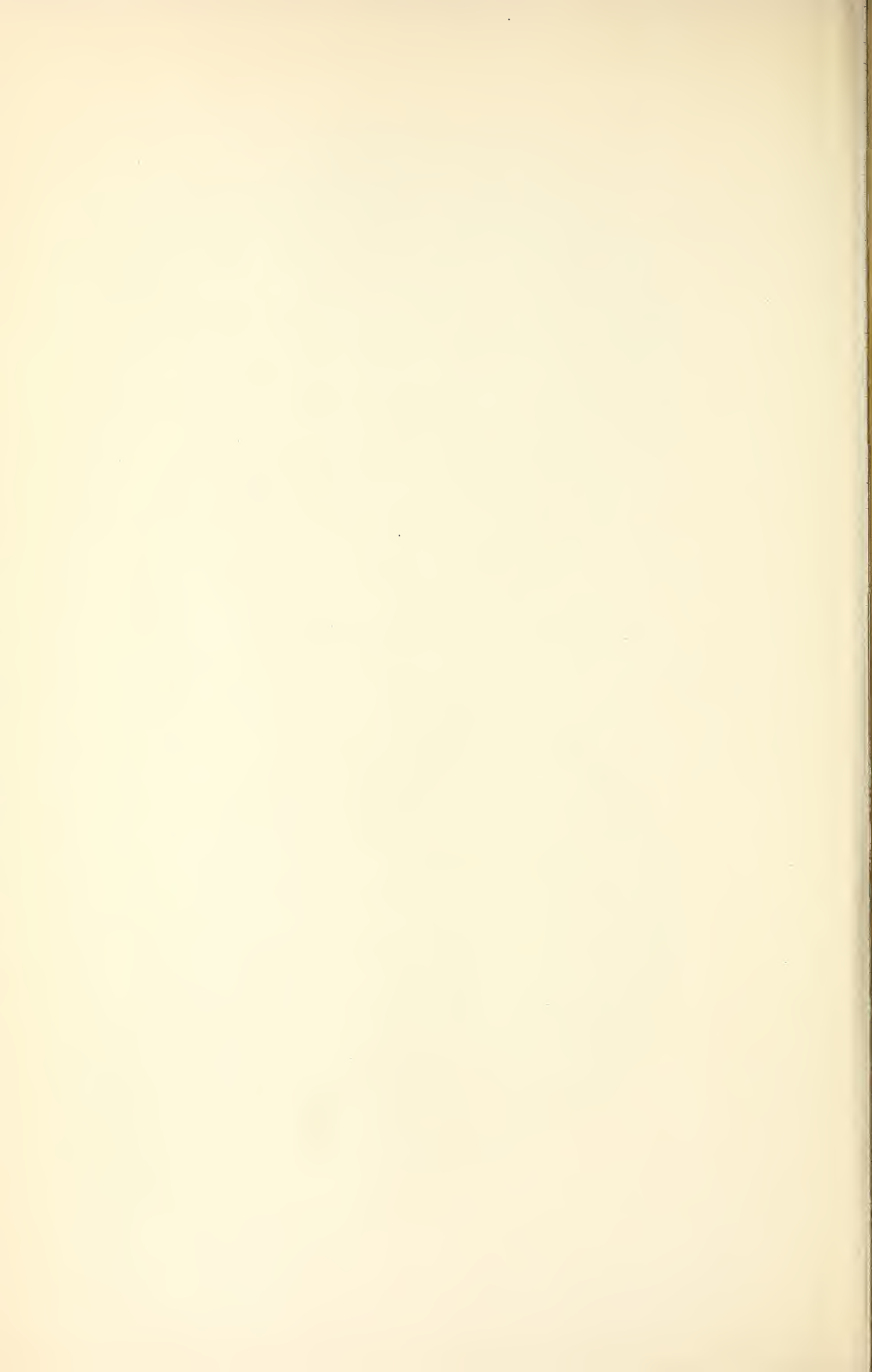


Spindle-Cell Sarcoma. Bipolar Mitosis. x 250.

FIG. 9.

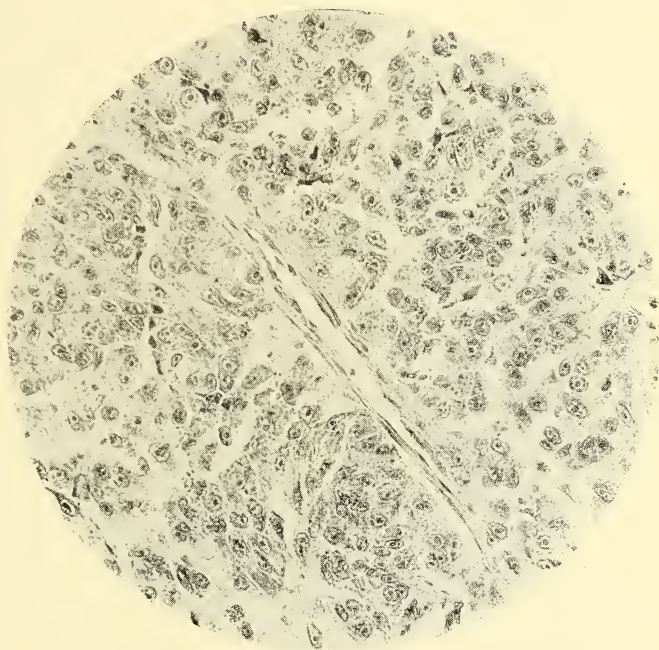


Spindle-Cell Sarcoma. Tripolar Mitosis. x 250.



Large, round-celled tumors conform in type to the anaplastic deposits in node and chest wall metastasis of Case I. The cells are derived from fibroblasts and vary in size from that of a lymphocyte to that of the largest giant cell. The nucleus is generally densely stained with a thin or wide ring of acidophile protoplasm. True giant cells are uncommon, the large elements having huge, irregular, chromatin masses, which nearly fill the body. The hyperchromatic nuclei do divide occasionally, but even then do not form true myeloid cells.

FIG. 10.



Large Round-Celled Sarcoma. Epithelioid Fibroblasts. x 250.

Amitotic division is the ordinary event, vascular supply is poor, necrosis common, and the reticulum far more difficult to demonstrate than in spindle-cell sarcoma, because the habit of growth has almost completely replaced the habit of work. There is another growth of large, round cells, which are epithelioid in appearance, nearly uniform in histological character, and almost pure in type, in which the reticulum is easily demonstrated and blood supply abundant. Giant cells are little apt to form in it. (Fig. 10.)

True fibroblastic sarcoma, with small, round cells, has occurred in

my experience only once in the skin, or in any other organ. I am indebted to Professor Ewing for the use of the following case:

CASE IV. *Small, Round-Celled Sarcoma*.—The patient was a young woman, who had about eighty of the tumors scattered over her body. The one from which the two sections I have seen was taken was not more than half an inch in diameter, rather deeply imbedded in the skin, and not pigmented. One of the sections I stained with picrofuchsin, and brought out the reticulum easily, although the preparation was eight or more years old. The tumor is enclosed in a dense condensation capsule, formed by pushing aside the connective tissue, and lies wholly in the cutis. It is tolerably well supplied by blood-vessels whose walls seem fully formed as to lining endothelium. The neoplastic cells are small and uniform in size, about the diameter of a polynuclear leucocyte. Except for size, they are like the second variety of large, round cells, epithelioid, with a granular acidophile protoplasm, and a round, central, vesicular nucleus. Mitosis is uncommon, perhaps because growth is restrained by the tough capsule. I cannot make out that the cells have any particular relationship with the vessels; they are too closely packed. (Fig. 11.)

Giant-celled sarcoma occurs in the skin by extension from bone marrow or periosteum, in the former case through the osseous covering. These sarcomas always show giant cells, no matter whether they grow without hindrance or not, in which they differ from the accidental formation in other sarcomas. The tumor from the marrow should be called strictly myeloid, myelogenous, or medullary sarcoma, the other periosteal, for the two are not identical, and the latter is more benign. Neither forms metastasis, but the growth may be multiple at the start. Both contain numerous vessels, much intercellular substance, with a structure like that of epulis, a mass of small, round spindle, true myeloid giant cells, and cells with hyperchromatic nuclei, which have been called myeloplaxes. The last term is probably a misnomer; the cells are probably formed as in perithelioma, by a simultaneous overgrowth of chromatin and protoplasm. The nuclear outline is often fluted. Delbanco¹¹ has reported a periosteal tumor which existed on the finger for twenty-two years. Heurteux¹² and Venot¹³ have collected a series of such cases. I should bar them all from consideration in dermatological literature, because they involve the skin, like a deep abscess, only by contiguity. I have seen one case in which the skin was reddened, and attached to a tiny periosteal tumor.

Treatment.—There is some hesitancy even in recommending thorough and early ablation. Putting a knife to a quiescent sarcoma is often

touching a match to a gasoline can. It shortens the patient's life. A solitary growth of small size, or encapsulated, or of the fibrous or myxomatous types may be removed, with the happiest result. It is almost useless to tamper with disseminated tumors, except to relieve symptoms; their cells surely lurk in intervening lymphatics. However, the off chance must be taken in the beginning. Inoperable cases may be tried with Coley's toxins, and offer a fair prospect of success in selected instances, from the fact that injection may be made directly into the tumor mass. There is no doubt that the toxins have cured, and have held malignancy in check, but from what I can gather at first hand non-pigmented, spindle-celled sarcoma offers the best if not the only prospect of success.

As to the therapeutic value of arsenic, divergence of opinion, notable even in dermatology, exists. As a last resort, it may be given always by injection into the subcutaneous tissue or into the tumor, every second day. The dosage is 7 cgm. of cacodylate of sodium, 2 cgm. of sodium arsenite, and 10 drops of an equal part mixture of water and Fowler's solution, increased gradually to toleration. Arsenic does exert an extraordinary influence on many fibrous neoplasms of the skin, and one would expect to find it useful in the sarcomas which nearly approach them.

II. LYMPHOID-CELLED GROUP.

In the present scheme, this subdivision includes leukemia, pseudo-leukemia, and malignant lymphoma. The last is also variously styled lymphosarcoma, and small, round-celled sarcoma, with little justification except that of usage. It is not possible to enter upon a discussion of the relationship of these disorders, but in their early stages, before lymphocytosis appears or in intervals of remission, at least, lymphatic leukemia and Hodgkin's disease cannot be differentiated. The same absence of dividing line exists between pseudoleukemia and lymphoma. Nékám¹⁴ states only those cases can be accepted as leukemic which occur in the course of leukemia; a correct restriction, but one which does not forbid their admission to this group. When leucocytosis reaches its height, the difficulty, so far as leukemia is concerned, is removed. There can be no certainty as to a differentiation between Hodgkin's and lymphomatous deposits, but it is probable that when the lymphoid cells proliferate in the skin, and especially when true giant cells are formed (providing syphilis and tuberculosis are excluded), we are dealing with a true neoplastic formation. Pinckus¹⁵ discovery, that in leukemia the skin growths arise from preëxistent lymphatic tissue, not from lymphocytes, is unworthy of consideration, because no normal

lymphoid tissue exists. He describes giant cells as part of the process in his case, a finding which throws great doubt upon his diagnosis. Large acidophile cells are seen in certain lymphomas, which are probably only altered endothelium.

So far as the skin is concerned there is no question that all three processes produce true tumors. In leukemia and pseudoleukemia the growths are derived, according to both Oertel¹⁵ and Nékám, by emigration of leucocytes, increased and renewed from the same source; they are metastatic deposits in lymphoma. A large number of cases has lately been eliminated from this category by the discovery of the tubercle bacillus in section and by inoculation of the nodes, no typically tubercular changes being present.

All sorts of anomalous cases have been noted, particularly by Kaposi, in which it was impossible to determine the character of the disorder except that its cells were lymphoid. These indeterminate cases which, according to him, "may shade into leukemia, pseudoleukemia, or mycosis fungoides," are described as follows: They occur in anemic females whose skin on face, trunk, and extremities becomes—except for small, healthy islets—smooth, pale, red, and glossy. It is thickened sufficiently to cause an appearance of enlargement of the parts. The consistency is doughy, with firmer masses in deeper parts. The skin is hyperesthetic, so much so as to prevent scratching, although itching is intense. All of the patients have died, usually from marasmus, "preceded by development of lymphatic abscesses, fungoid tumors, adenopathy, or true leukemia."

The lymph nodes in the three affections show the same microscopical picture, an increase in the small round-cells, which pack the lymph spaces. Hodgkin's disease may be only a hyperplasia and lymphoma a tumor, but it is a wise man who can say where one process ends and the other begins. Lymphoma is usually seen first in one node, pseudoleukemia in a group, but this rule may be reversed. Both are accompanied by grave anemia. Lymphocytosis, if it is ever present, is not persistent, as in leukemia. Lymphoma occurs in the skin only in metastasis, a single or multiple white mass, whose nature must be determined by the microscope.

Leukemia and Pseudoleukemia.—It has been well established that both a diffuse and circumscribed tumor formation may occur in the skin in each of these affections. The diffuse lesion is lymphodermia perniciosa of Kaposi, and begins in the form of a partly diffuse, partly localized, eczematoid dermatitis, scaling, moist, and intensely pruriginous. Gradually the skin becomes thickened and nodules appear in it, here and there, which may ulcerate. In Kaposi's classical case there

was "absolute increase of white corpuscles," and at autopsy nodules were found in the pleura and lungs, the spleen was four times its normal size, and the bone marrow was grayish from "excessive leucocytosis."

In other cases nodules appear located in the deeper tissues, white or bluish, with or without pigmentation and no involvement of the intervening skin. In the example reported by Neuberger there were two symmetrical tumors on the cheeks without any other lesion. The growths are rarely attached to the skin, but at times the whole cutis is invaded, and ulceration takes place. Fungoid masses may develop on the ulcer, as in the transitional cases. Arning reported one instance, in which pseudoleukemic tumors were found in the mouth and imbedded in the muscles; Hochsinger and Schiff, a remarkable case in a child of eleven months, in whom the tumors, varying from a pin-head to a hazelnut, were disseminated over the whole body. The neoplasms have the same clinical appearance in both diseases.

In the later stages of Hodgkin's disease there may appear a condition called pseudoleukemic prurigo, one case of which I have seen. It is evidenced by tiny, pale papules, which itch furiously, and becoming excoriated by the nails, immediately are capped by a punctate blood crust. The skin is deeply pigmented, either from the cachexia or as a result of the incessant scratching. Tumors are not necessarily present. The phenomenon is not surprising, since Kreibich has found infiltration in macroscopically unchanged skin.

Histologically, in their metastases, if we may use such a word, leukemia and pseudoleukemia are identical. The neoplasms can be differentiated only by the blood count, when it is characteristic, and by concomitant symptoms. They begin always in the deeper tissues, commonly at the junction of reticular layer and subcutaneous tissue, in the form of perivascular sheaths of round-cells. These cells have the usual appearance of lymphocytes, a narrow ring of protoplasm, which takes basic dyes (methylene blue), surrounding a rounded nucleus usually diffusely stained. Other forms are present in smaller number in lymphemia, the large mononuclear and transitional cells. Myelogenous leukemia or myelema, as it is coming to be called, while transition exists between it and lymphemia, is not likely to be mistaken for the latter or for Hodgkin's disease when myelocytes can be found in smears from the peripheral blood or in the tumor tissue. They are difficult to demonstrate in section. Oertel's,¹⁶ Nékám's and Kreibich's¹⁷ cases seem to be all of the myelogenous variety. Polynuclear leucocytes are sometimes present.

The cells, myelocytes, or lymphocytes have no relation like that of fibroblasts to the intercellular collagen. They do not arise from it, even

in lymphoma, and their growth merely pushes it aside and does not destroy it as sarcoma does. In the nodes and metastases of the whole class it is not unusual to find here and there a fine thread which stains with orcein, and is an elastic remnant, caught and held as the growth pushes other tissue out of its way. Blood-vessels are few and penetrate the tumor only in septa between its cellular masses, not between the cells themselves.

Treatment.—Removal is, of course, useless. Coley's toxins are absolutely ineffective, and arsenic is the only avenue of escape, generally a blind alley. In Arning's case of pseudoleukemia a marked improvement was noted, Touton's recovered entirely under the use of the drug, and Zeisler stated quite positively, in a recent address, that it affords a prospect of cure, so that its aid should always be invoked. It is given as in sarcoma.

III. SARCOID GROWTHS.

"Sarcoid" is a curious, hybrid term, which has, however, become intelligible by use. As the disorders occur, except in the rarest instances, in the skin alone, they have apparently escaped the notice of the general pathologist. Gaylord tells me he has seen a growth very like benign sarcoid in the lower animals.

The members of the group have been bones of contention since Alibert first described mycosis, or, as it is now called, *granuloma fungoides*, early in the nineteenth century. The class has close relationship, on one hand, with sarcoma, and, on the other, with granuloma, consequently with productive inflammation. No infective agent has been demonstrated by culture or inoculation in the causation of any of the group, a gap which may be filled when methods are less faulty.

The diseases to be considered are: (1) *Granuloma fungoides*; (2) multiple idiopathic pigmented sarcoma; (3) *sarcomatosis cutis*, and (4) multiple benign sarcoid. There is no need to review the familiar clinical features of the first two. It will be noted that there is singular unanimity of opinion as to their nature among later histopathologists. Metastasis in internal organs has been reported once in the first and in one doubtful instance in the second. Except *granuloma fungoides*, the class is, in most instances amenable to treatment by arsenic.

Granuloma Fungoides.—Not all of the investigators with whose views I am acquainted are agreed that the disease is a granuloma, whose cause has escaped detection, not a sarcoma, but the opinion that such is its nature, backed by Unna, Köbner, Crocker, Philippon and Leredde, Hochsinger and Schiff, and Payne, is not to be controverted,

except on findings which will overturn completely present conceptions in the cytological field. Vidal and Paltauf¹⁷ have made an effort to identify the growth with lymphodermia, on grounds which are entirely insufficient. As my investigations on the case autopsied by Elliot some years ago agree entirely with Galloway's,¹⁸ expressed in his admirable paper, I shall quote largely from that source.

The skin shows in all stages of the disease the same character of cell infiltration. It has even been demonstrated in areas in which no change is clinically apparent. The process begins about the vessels of the corium, as well as round the sweat-gland and hair-follicle plexuses, in the shape of an infiltration of lymphocytes, plasma and mast cells, the last in no great abundance, and a proliferation of connective-tissue cells. The proliferation furnishes the bulk of all the foci. Its cells are large, round, oval or fusiform, with a granular protoplasm, and large, vesicular nuclei, and a smaller variety with the same characteristics. A reticulum is found between these cells at first like that of sarcoma, but later disappears almost entirely. In early lesions (in any stage) these connective tissue cells divide by mitosis, but, when growth becomes rapid in the tumor period, division is amitotic and extremely rapid. A few giant-cells are to be found. The epidermis is affected secondarily, and shows eczematous changes, acanthosis, intercellular edema, and parakeratosis. In later stages, simultaneously with, perhaps because of, rapid proliferation and consequent vessel obliteration, the connective cells break down. Accompanying their necrosis there is change in the collagen and elastin, which finally disintegrate. The epidermis is encroached upon, is flattened, and finally disappears, leaving an ulcerated surface. Upon this the "tomato" tumors appear. Various organisms have been found, but they were properly regarded as contaminations, or, like McVail's¹⁹ "white bacillus," have failed of confirmation.

Malherbe and Monnier²⁰ have reported a case in which there were metastases in the axillary, inguinal, bronchial, and mesenteric nodes, in the breasts, lungs, pleura, kidneys, pancreas, uterus, ovaries, and heart. The case cannot be regarded without suspicion, as in addition to the extraordinary dissemination, the authors describe a "marked leucocytosis," and class it with lymphadenoma.

Multiple, Idiopathic, Pigmented Sarcoma.—Histological findings are practically uniform throughout the great number of reports now available. The disease begins simultaneously at several points on the extremities, in the lower portion of the cutis and subcutaneous tissue. The cells are spindle shaped and run in bundles longitudinally, transversely and obliquely, their cross sections giving the appearance of

round cells. Mitosis is quite common and an intercellular reticulum is readily demonstrable. The characteristic feature of the growth is the great number of new blood-vessels. Their endothelial lining is incomplete in places and interstitial hemorrhage is frequent. Red blood-corpuscles and pigment granules are always to be found between the spindle-cells. The endothelium of the new vessels takes on a proliferative action in the older portions, varying in degree from a mere swelling of the flat cells to a condition in which the lumen is completely blocked by concentric layers, the cells elliptical from pressure. Involution is brought about by death of the tumor cells, reabsorption of their detritus and the pigment and organization with the formation of fibrous tissue about the new vessels. Kaposi²¹ has reported a case in which **there were** metastases in the internal organs, but as the cells are described as round it is possible that the tumor was not identical with the one under discussion. Lymph nodes are not involved. Fordyce²² thinks that on account of the characteristic appearance in simultaneous multiple growths on the extremities an infective agent is at work. Wende²³ agrees with him. Sellei²⁵ states that the process conforms closely to Török's definition of granuloma and ventures to change the name to indicate this nature. Other authors are content to let it pass as a sarcoma. Pringle's²⁴ finding of bacilli in the capillaries and sweat glands in two cases lacks confirmation.

Sarcomatosis Cutis.—This disease is called by Kaposi²⁶ "the third type of sarcomatosis cutis," the others being mycosis fungoides and lymphodermia. It is seen in persons of middle age, in the form of numerous, pale nodules, beginning in the reticular layer or subcutaneous tissue. The borders of the tumors are not sharp, but shade gradually into the surrounding skin. The earliest are only to be felt by careful palpation. As the nodules increase in size they take on a reddish tint, with a smooth, shining surface. Coalescence produces flat, raised plaques, the size of the hand, or lobulated masses not unlike the tomato growths of granuloma fungoides. Differing from multiple, idiopathic, pigmented sarcoma, the larger tumors ulcerate, and present a punched-out opening leading to a larger cavity beneath. There is no involvement of lymph nodes, and no change in the blood, except anemia. It is even stated that cachexia does not occur.

The best description of the histology is given by Fendt.²⁷ He says the growth is made up of large, round cells, which are encapsulated in some nodules, and infiltrate the cutis in others. The elastic fibers remain unchanged, but the collagenous disappear in the infiltrated portions. The cells take stains well, both nuclear and protoplasmic, at the periphery of the nodules, but at the center undergo retrograde metamor-

phosis and lose their staining power. The nuclei are fragmented. Large vacuoles appear in the protoplasm during regression. When the necrotic process reaches the surface, ulceration occurs, and if the detritus is emptied out a cavity with a small opening is formed. The cells seem to be epithelioid, and are of connective origin. (There are no illustrations.) Blood-vessels are fairly numerous. I can find no mention of a reticulum which must be present. Fendt makes an unqualified assertion that the process is granulomatous.

Multiple, Benign Sarcoid.—A description of the disease cannot be given better than in the summary appended to Boeck's original article²⁸, both as to clinical features and histology. He had then met with only three cases, unless the disease called by Hutchinson "Mortimer's Malady" can be included. The two differ in some particulars. Professor Boeck reports a fourth case in the Kaposi Festschrift, 1901.

"Clinically, we find in a middle-aged, pale, thin man, groups of lymph nodes much swollen, and on examination a slight augmentation of the number of white corpuscles. At the same time there exists a widespread, somewhat symmetrical eruption, firm nodules of varying size, on head and extensor surfaces of trunk and extremities. They range in size from a hemp-seed to a bean, and the larger have irregular contours. They involve the whole skin, and are movable with it. Only on the scalp is the infiltration not palpable. Here only yellowish outlines are seen. The color of the early nodules is bright red, becoming darker, and, finally, yellowish or brown. Slight scaling occurs on older lesions. They show a tendency to peripheral spreading and central depression. On the face, they have a peculiar appearance, with blue center and yellow border, a feature present in all the cases I have seen. The nodules disappear finally, leaving, as a rule, a loss of substance in the skin, which may be white on the face, yellow on the back, and darker at the periphery on the legs. Exudation, ulceration never take place. A papular eruption grouped like lichen planus was seen on the inside of the thigh. A tendency to develop at the site of old injury should be remembered. The symmetry is not such as is found in affections whose localization is evidently determined by central nerve influence. The disease seems to be benign, and disappears under arsenic, or perhaps spontaneously."

The histology is unique. "The areas of new growth might be described as perivascular sarcomatoid tissue, built up by excessively rapid proliferation of epithelioid, connective-tissue cells in the perivascular lymph spaces, with little addition of other varieties. The tumor soon begins to degenerate, and the tissue is rarefied, showing a network of branched connective-tissue cells. It should be remembered that true

giant cells of sarcomatous type were found, though rarely. Compared with other new growths of the skin this must be said histologically to possess affinity to sarcoma and also to the cases of pseudoleukemia cutis described by Arning and others." I confess I cannot follow the last analogy. The name indicates the place for the neoplasm, though no organism was found.

Conclusions.

The processes of elimination and classification are going on in sarcoma cutis, as in other groups, such as eczema and the bullous affections, and is unquestionably a step in the right direction, whether my deductions are accepted or not.

1. The group may be divided into three classes: Fibroblastic sarcoma, the lymphoid-celled class, and sarcoid growths.

2. The first class comprises spindle and round-celled tumors. True giant-celled sarcoma is not primary in the skin. The origin is the same for all types, from the fibroblast. Between the cells there is present invariably a delicate reticulum, probably composed of collagen, which does not occur in epithelial neoplasms. The tumors are all vascular.

3. The lymphoid-celled class should have a place to itself. In lymphatic leukemia, Hodgkins' disease and lymphoma, the cells are all of one type, and the cases show transition states from one to the other. There is no intercellular substance present as a product of the new cells, there are no vessels ramifying between them, and the preëxistent tissue does not melt away before their advance. So far as the skin is concerned these disorders give rise to true tumor formation, which may be asserted also of myelogenous leukemia. This class is not related histogenetically to either of the other two.

4. The sarcoid tumors are undoubtedly all fibroblastic in origin, but two of them are probably granulomas, whose organism has not been discovered, no reproach at present. They are granuloma fungoides and sarcomatosis; with them should be classed Boeck's sarkoid as a granuloma, certainly not with lymphodermia. Modern histologists regard idiopathic sarcoma as having the same character, but it closely approaches sarcoma on one side and endothelioma on the other. The reticulum is present here, as in sarcoma and productive inflammations, but these neoplasms do not metastasize, and they are curable by arsenic, except granuloma fungoides. Perhaps the spindle-celled sarcoma, which disappears under the same treatment, is a near relative to Kaposi's sarcoma, so that a transition may be traced by easy and well known steps from the most malignant of neoplasms to benign tumors, hardly distinguishable from granuloma, a class of infective, generally

productive neoplasms, as lymphoid tumors shade from lymphoma through lymphemia to inflammatory hyperplasia. It will be interesting to see whether an infectious agent is ever discovered for fibroblastic sarcoma, or whether a sharp line is to be drawn through the sarcoid group, between it and granuloma.

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A CASE OF GUMMATOUS ULCER OF THE BLADDER
WITH ABSCESS OF THE PROSTATE AND LEFT
SEMINAL VESICLE, COMPLICATED WITH RETEN-
TION, TREATED BY SECTIO ALTA AND EXCISION
WITH CURETTEMENT.*

BY GRANVILLE MACGOWAN, M.D.

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A. B. C. Business manager, 37 years old, American, married, and has one child, who is apparently healthy, but has a slight irregularity in the dental arch.

In 1891, he had a small venereal ulcer which received but little treatment. It was suspected to be syphilitic, but was not followed by any noticeable secondary manifestations. In March, 1897, he consulted me for a bad diarrhea, which resisted treatment for several months. One day, he called my attention to a circinate scaly eruption upon the penis and forearms. This had much of the appearance of ring-worm, but would not yield to treatment for trichophytosis. It gradually disappeared under the application of a calomel collodion and the intradermic use of sublimate. In January, 1899, he had a proctitis. The urine then contained some pus, and he made complaint of occasional attacks of chilliness.

Early in December, of the same year, he returned looking very anemic, and reported rapid loss of weight, complaining at the same time of pain in the bladder, with greatly increased urinary frequency. A little later he suffered from incomplete retention.

As he had had stricture and was very nervous, being greatly troubled about himself and his business, it was supposed that the difficulty was a spasmodic one, and would disappear after dilation of the strictures, but this did not prove beneficial. There was great frequency in the morning and in the evening, and then only about one ounce of urine could be passed at each call. During the middle of the day, and at night, he was usually quite comfortable.

On December 23rd I made an examination of the prostate and the seminal vesicles. I found the left side of the prostate nodular and while massaging it some pus appeared at the meatus. He could not

* Read before the Medical Society of the State of California, at its meeting in Sacramento, April, 1901.

urinate afterwards, and as he was in a great hurry to leave I did not wash the bladder.

On the next day there was greater irritation, and a decided feeling of inability to empty the bladder. I gave him a sedative diuretic containing cornsilk and urotropin; the extra irritation disappeared but his general condition did not improve.

On February 8th, I had him urinate all he could, about six ounces. Afterwards on passing a catheter, I found he had a residual of eight ounces. The bladder was washed thoroughly, and then the prostate and seminal vesicles were carefully stripped, and although an abscess could not be palpated distinctly, quite a quantity of pus was pressed into the bladder and came out through the catheter. The bladder was very foul and difficult to cleanse.

On February 21st the quantity of residual urine withdrawn was thirty-four ounces. This was acid and very purulent, but its presence appeared to give him no inconvenience except that of a dull pain in the abdomen. He had received since December, urotropin, extract of thuya, cornsilk, salicylate of methyl, salicylate of soda, sanmetto, methylene blue, guaiacol and ol. santal, for the pyuria without benefit. The boracite of magnesia seemed to be somewhat more useful.

On February 22nd, I first suspected that some syphilitic lesions, possibly spinal, were causing the bladder symptoms, so I ordered for him daily rubs of thirty grains of the ointment of colloidal mercury.

On the 25th, on examination of the bladder with the Brenner cystoscope, I found the mouth of the right ureter sunken and dilated into a long slit and pumping urine mixed with shreds of pus. The left ureteral mouth was normal. The wall of the posterior right and left segments was trabeculated. Posterior to the right ureteral mouth was a group of ulcerated patches, arranged in a circle, with steep infiltrated edges and ragged bases, from which shreds of necrotic tissue were waving in the fluid used to fill the bladder, like plants growing from the bottom of the sea. The line of the bladder sphincter was rather irregular, with some projection, like that of an enlarged prostatic lobe, from below.

March 11th the left vesicle, now distended with pus was readily stripped and only a very few spermatozoa, all dead, could be found in the material pressed out. He had been using a catheter once a day since the cystoscopic examination and had a residual of twelve ounces.

March 17th. Sectio Alta. The posterior bladder wall was found greatly trabeculated, the anterior wall and the dome were smooth. A large ragged ulcer, which had evidently resulted from the running together of a group of ulcers, was found posterior to the opening of

the right ureter. It was covered with a dark, tough slough. Some shreds of tissue hanging from it had produced the appearance of waving seaweed seen at the cystoscopic examination. The surface of the ulcer, which in places was covered with white necrotic tissue, at others appeared blue or black; and where the slough had separated it was reddish. The bladder neck was convex into the bladder, the edematous mucous membrane, pouting all round the urethral orifice, had given rise to the cystoscopic image of prostatic enlargement. Pus could be seen flowing into the bladder from the prostatic urethra. Pressure, through the rectum, upon the prostate and left seminal vesicle, caused a stream of liquid, looking like whey mixed with curds, to flow into the bladder on the left side of the urethral opening. The ulcer was thoroughly curetted with sharp curettes, the edges trimmed with a pair of scissors, all loose shreds cut away, the hemorrhage stilled with gauze pads, saturated with glycerine extract of suprarenal capsules, and the bladder closed tightly about a de Pezzer suprapubic drainage tube.

March 19th. Urine free of blood. Each day, at the time of irrigation of the bladder, for which a 1-100,000 bichloride of mercury solution was used, the prostate and left seminal vesicle were gently massaged so as to empty them of pus. Each day he also received an intradermic injection of $\frac{1}{8}$ gr. of corrosive sublimate, and took 50 grains of iodide of potassium.

On April 18th the drainage tube was removed, and he voided 6 ounces of urine naturally. Rubs of the ointment of colloidal mercury were now substituted for the intradermic injections.

On the 20th, as the action of the detrusor did not seem to be restored the tube was replaced, for he had no sensation of fullness when the bladder contained as much as 15 ounces or more of urine.

From the 27th April to the 26th May he wore the tube, but was up attending to his business. The tube was removed, boiled and replaced every fourth day. The vesicles and prostate were stripped every other day.

On the 26th of May the tube was permanently removed, for he had regained vesical power, and the amount of residual urine was reduced to 2 ounces. There was still some atony, for he had to assist each passage by external pressure upon the abdomen. Twenty-four hours afterwards the track of the tube was solidly healed. The drainage by the de Pezzer tube was so perfect in this case that there never was any leakage.

Early in June live spermatozoa began to appear in the vesicular strippings.

On July 11th the patient reported from Brooklyn, New York, that "the only evidence of my old trouble is a lack of sufficient contractile power in the bladder and occasionally a few flakes in the urine. By the giving of proper attention to the matter there is now no retention."

In September—"The bladder action, though not perfect, is continuously growing better."

The use of mercury, cystogen, maltine and strychnia were continued until September 1st.

In April, 1901.—"I am in better health than I have been for many years and am nearly if not quite as good as ever."

The points of special interest in this case are:

First, The long delayed appearance of the skin manifestations of syphilis and their unusually light but persistent character.

Second, The gradual occurrence of retention without organic obstruction, without spinal lesions, and without true atrophic changes in the detrusor, or inflammatory spasm of the vesical sphincters.

Third, The occurrence of a marked gummatous infiltration of the bladder wall and subsequent ulceration thereof.

Fourth, The occurrence of vesicular abscess upon the side opposite to the ulcer.

Fifth, The gratifying results of surgical interference and constitutional treatment.

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EXAMINATIONS OF URINE IN DISEASES OF THE
MALE SEXUAL ORGANS.*BY LOUIS HEITZMANN, M.D.
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MICROSCOPICAL examinations of urine in diseases of the male sexual organs have until recently been considered to be of very little practical importance, and even at the present day are, with few exceptions, resorted to by most more as a matter of routine than with the idea of gaining any additional knowledge of the condition of the patient thereby. Yet it is a fact that not only will such examinations frequently clear up doubtful cases, but also lead to the diagnosis of conditions not previously suspected, although it cannot be denied that every specimen of urine will not contain a sufficient number of features for a correct diagnosis.

Again, the field of usefulness for such examinations must necessarily be limited, but in diseases of the prostate gland, the seminal vesicles and ejaculatory ducts, as well as the urethra, the microscope often enough will determine the exact conditions, and will lead to more careful examinations of the patient, where previously this was not considered necessary. Inflammation, even of mild character, whether acute or chronic, suppuration, ulceration, as well as tumors can all be recognized and their exact location determined.

Whenever an inflammation is present anywhere in the genito-urinary tract pus corpuscles will be present in the urine, while the location of the inflammation is determined by the different epithelia found in the specimen. Although the localization of the epithelia seems at first to be difficult, this is not at all the case if we know the histological structure of the organ and remember the varieties of epithelia with which the organ is lined. All epithelia are bound to undergo a certain change on account of the imbibition of the watery elements of the urine, but since this change affects the different epithelia in the same degree, it is of no especial importance. Of the male genital organs the prostate gland is lined by a number of layers of cuboidal epithelia, while the ducts of the gland are lined by columnar epithelia; the seminal vesicles have columnar epithelia similar to those

* Read before the Genito-Urinary Section of the New York Academy of Medicine, May 15, 1901.

from the ducts of the prostate gland, but almost invariably studded with a varying number of pigment granules, while the ejaculatory ducts are lined by columnar ciliated epithelia. In the urethra, on the other hand, stratified epithelia are found, the uppermost layers being flat, the middle layers cuboidal, and the deepest layer columnar.

It is therefore evident that, although the character of the epithelia alone may exclude their being derived from certain organs, as for instance in the case of cuboidal epithelia, we know that they cannot come from the ejaculatory ducts, this alone is not sufficient for a positive diagnosis, and the sizes of the different epithelia must be taken into consideration to determine their exact location. Cuboidal epithelia, which are originally angular polyhedral formations, assume a more or less regular, even perfectly spherical form in urine, which, when small, must be distinguished from pus corpuscles.

The smallest cuboidal epithelia in the male genital tract are those from the prostate gland, and these are always about twice the size of the pus corpuscles. In every case the pus corpuscles, which are the smallest granular corpuscles, must be taken as a standard and from them the sizes of the small epithelia must be judged. Smaller epithelia than those from the prostate gland are those from the convoluted tubules of the kidney, which are only one-third larger than the pus corpuscles, therefore can easily be distinguished from the former. The only epithelia with which those from the prostate gland might be mistaken are those from the ureter, but the columnar epithelia from the prostatic ducts will easily clear up the diagnosis.

Prostatitis is a much more common affection than is generally supposed, and there are few cases of gonorrhea in which an inflammation of the prostate gland is not present at one time or another. Mild cases may not give any pronounced clinical features whatever, yet the urine will contain the evidences of such an inflammation, which may often persist for some time, even after the urethral discharge has ceased entirely. For this reason a gonorrheal patient should not be discharged as cured until a thorough examination of the urine has shown the disappearance of all pus corpuscles and epithelia.

In an acute prostatitis of moderate severity, the features found in the urinary sediment are red blood corpuscles in varying numbers, pus corpuscles, mucus and epithelia from the prostate gland and its ducts. Red blood corpuscles are never absent in an acute inflammation, and are numerous when hemorrhages occur, as is sometimes the case. Pus corpuscles vary in numbers according to the intensity of the inflammation. Mucus, in the form of threads, corpuscles and even casts, the latter being the so-called cylindroids which must

not be confounded with true hyaline casts, is always present and as a rule in large amount. A small amount of mucus is found in every normal urine, and this is increased in every inflammation, especially in those of the sexual organs.

The characteristic features are the epithelia from the prostate gland, which, being twice the size of pus corpuscles, can only be mistaken for those from the ureter. An inflammation of the ureter, however, rarely, if ever, occurs alone, but with a cystitis, pyelitis or pyelonephritis, and then the epithelia of the bladder, the pelvis of the kidney and the uriniferous tubules are present in equal or usually larger numbers, while in a prostatitis we either find the epithelia from the prostate gland and urethra alone or in larger numbers than those from the other organs if the inflammation has ascended to the urinary organs. Again, the columnar epithelia from the prostatic ducts being usually found in almost equally large numbers with those from the gland itself, will easily clear up the diagnosis, even if the clinical symptoms should be unknown or of vague character. In many cases a prostatitis is associated with an inflammation of the urethra or of the bladder (especially the neck) or both, and the epithelia from these organs will then be associated with those of the prostate gland.

In chronic prostatitis red blood corpuscles are either entirely absent or scanty, while the pus corpuscles are present in moderate numbers, and the epithelia from both the gland and the ducts are fairly abundant. Both the pus corpuscles and the epithelia are in these cases studded with small, highly glistening, refractive granules and globules, which are newly formed fat globules and never found in acute cases. Groups of these globules, lying free, are also always present. The more chronic the case, the more abundant are these fat globules and the epithelia may be completely filled with them.

Abscess of the prostate gland is not of rare occurrence, and can be diagnosed from the examination of the urine with comparative ease. Although the clinical symptoms are in many cases sufficiently plain for a diagnosis, this is not always so and the symptoms may be so vague as not to allow a positive opinion; in these cases the microscopical examination of the urine will completely clear up the diagnosis. The sediment contains pus corpuscles in very large numbers, numerous red blood globules in acute and fat globules in chronic cases, together with epithelia from the prostate gland and its ducts. Besides these features connective-tissue shreds will be found, and without these no diagnosis of abscess is justifiable, as these alone show a destructive process. Connective-tissue shreds vary in size to a great degree and are made up of wavy, irregular fibres of a moderately

high refraction. They can easily be distinguished from mucus-threads, which are pale, more or less regular, and may even run parallel for a considerable distance, while connective-tissue shreds are fibrillary and frequently finely granular.

In so-called gleet-threads a number of fields of the microscope may be crowded with pus corpuscles, and it would be a great error to diagnose an abscess from the number of pus corpuscles alone, without the presence of connective-tissue shreds. In these gleet-threads mucus is always abundant, epithelia from the prostate gland and urethra are present, and as a rule fat globules in large numbers. For the diagnosis of an abscess it does not seem necessary for the abscess to have ruptured; emigrated pus corpuscles and the shedding of connective-tissue shreds are sufficient for a diagnosis as long as no firm membrane has formed around the abscess.

Besides a simple prostatitis, hypertrophy of the prostate gland can in many cases be diagnosed from an examination of the urine, even before the clinical symptoms are sufficiently pronounced to lead to a suspicion of the affection. Again, even when the symptoms are such as to lead to a suspicion of the affection, the patient does not always care to submit to a rectal examination, and a diagnosis through urine examination may be a great help to the physician.

In these cases all the features of a chronic prostatitis are found, usually with a small or moderate number of pus corpuscles only, but with the addition of connective-tissue shreds, which, however, may be scanty. If the later are seen with the evidences of a chronic prostatitis, especially when the age of the patient is above forty-five or fifty years, the diagnosis can at once be made. When the hypertrophy becomes more pronounced, endogenous new formations of pus corpuscles will be seen in a large number of epithelia from the neck of the bladder, as well as in urethral epithelia and in some from the prostate gland itself. These endogenous new-formations consist in the appearance of a number of nuclei or rather newly formed pus corpuscles in the epithelia mentioned. Their number varies from two to four, five or even more. The pus corpuscles are formed within the epithelia and can easily be observed. A small number of these new-formations can often be seen in simple chronic inflammations, but larger numbers will be found in the epithelia only after a long-continued irritation due to a pressure of some kind.

In some cases the hypertrophy is so pronounced that we can speak of a benign tumor, and here all the features enumerated above will be seen in larger numbers, this being especially true of the connective-tissue shreds, which may be very long and numerous. Again,

malignant tumors, both sarcoma and cancer, are met with and can be diagnosed; in the former sarcoma corpuscles will be found, with large connective-tissue shreds, in the latter, cancer epithelia. In all these cases the characteristic epithelia from the prostate gland will show the location of the tumor. In tuberculosis, which, however, is probably never present without an involvement of the neighboring organs, and is a comparatively rare affection, the same features of a prostatitis or an abscess of the prostate gland are present, together with a varying number of tubercle bacilli. In these cases the examination for tubercle bacilli is as a rule a tedious process and many specimens may have to be looked at before a positive opinion can be given.

Fully as important as the diagnosis of a prostatic affection is that of a spermato-cystitis or seminal vesiculitis. Of late years considerable attention has been given to this disease and all authors agree that it is more common than has formerly been supposed. The clinical symptoms being in many cases quite vague and not at all characteristic, and rectal examinations being not always successful, microscopical urine examinations are of great importance and often enough clear up the case, especially when seminal fluid is mixed with the urine. The early morning urine, especially that portion first voided, or the last urine passed at defecation, is best suited for this purpose.

In such specimens pus corpuscles are always found and may be either scanty or numerous, according to the degree of inflammation. Since suppuration not infrequently occurs in the seminal vesicles, pus corpuscles may be very numerous. Red blood globules are almost always present, though their number also varies considerably, being abundant in the more pronounced and scanty in the milder cases. Epithelia from the seminal vesicles and ejaculatory ducts can always be found. The former are columnar epithelia of the same size as those from the prostatic ducts, but are studded with a varying number of pigment granules, while the latter are originally columnar ciliated epithelia, though the cilia may be broken off. These epithelia are longer, more slender and somewhat more irregular than those from the seminal vesicles, and when the cilia are broken off, delicate parallel rods in the interior of the epithelia near their basal surface, may indicate that the epithelia were originally ciliated.

The most characteristic changes are, however, found in the spermatozoa. Some of these have the normal appearance, while in others the heads become larger, round and granular, and in the severe cases have the appearance of pus corpuscles, so that we seem to see pus corpuscles with tails in such a urine. In the milder cases the change

is found only in a few spermatozoa, and in these the enlargement, although perfectly plain, is not very pronounced, while in the more intense cases most of the spermatozoa are changed to a great degree, though the tails remain the same. For a diagnosis only the complete spermatozoa are valuable, since broken off heads may easily lead to errors in the diagnosis.

Epithelia from the prostate gland are present in all cases, showing that the prostate gland is also inflamed; these are usually fairly abundant, both the cuboidal and columnar epithelia being seen. In the more chronic cases fat globules are found in the epithelia as well as in free groups. Mucus is always greatly increased and cylindroids or mucus-casts may be numerous; the mucus-threads sometimes assume large sizes. When suppuration exists, connective-tissue shreds are added to the other features.

In urethritis microscopic urine examination is not as important as in the conditions just described, though the symptoms of a chronic inflammation of mild character may be so slight as to render such a urine examination important. In many of these cases conglomerations of mucus with pus corpuscles and epithelia—the so-called gleet-threads, are found, even though they may be scanty. In these, urethral epithelia are usually found in small numbers. The urethra being lined by stratified epithelium, the epithelia vary with the intensity of the inflammation. All of these epithelia, the flat as well as the cuboidal and columnar, are irregular, the latter being frequently caudate. In the mild superficial inflammations the former only are seen, while in the deep seated lesions, such as ulcerations, the latter are present.

Ulceration of the urethra can be diagnosed when connective-tissue shreds surrounded by zooglœa masses and epithelia from the deeper layers of the urethra are found in the urine; red blood globules are never absent in such cases. When the columnar epithelia are quite abundant and endogenous new-formations of pus corpuscles are present in many of the epithelia, stricture of the urethra can be diagnosed. These endogenous new-formations may be found in either the epithelia of the urethra, the prostate gland or the bladder, according to the seat of the stricture.

It can thus be seen that urine examinations become of great importance in many cases, and the more regular such examinations are made, the better will we be able to form an idea of the extent of the different lesions.

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INVERSION OF THE TUNICA VAGINALIS FOR HYDROCELE.

BY ROBERT H. GREENE, M.D.,
of New York.

WITHIN the last ten years a new operation for the radical cure of the hydrocele has originated in France and its use is being advocated by a number of surgeons there at the present time. It has been taken up by at least one surgeon in Germany, and operations by that method are commencing to be performed here. It consists of an inversion of the tunica vaginalis. About a month ago at the suggestion and following the direction of Dr. John F. Erdmann I operated on a case of hydrocele by this method on a patient at the Workhouse Hospital, instead of by the Volkman method as had been my usual custom. This has been called Longuet's operation by one writer on the subject and is apparently called by the Germans Winkelman's operation. The ease with which the operation was performed on my first case, and the fact that no complication followed it (the patient being an old man with an extensive hydrocele of the tunica, accompanying three small hydroceles of the cord) led me to look up the literature on the subject to which I was a stranger, hoping that a short report might prove of some slight interest to a society whose members are required to operate so often by some method for this non-severe but very frequent condition of the sac.

It is very difficult to say to whom the credit of having first performed this operation should be given. Dudley Tait¹ in an article published in March of this year has given a clear description of the operation and also a pretty complete list of references on the subject. His article, as far as I am able to discover, has, up to the present time, been the only one published in English stating the results of it. He relates the history of three cases operated on by himself with good results by this method. He gives to the operation the name of Longuet's from the fact that Longuet, having published a description of the operation on October 31, 1900,⁴ in which he (Longuet) gives the history of twenty-two cases successfully operated on by this method, the majority of which were operated on as early as 1898. He (Dudley Tait) says that Vautrin of Nancy was probably the first to propose the method, and he refers to Gross ("Pathologie et Clinique. Chir.," Vol. III., 1893).

The writer has unfortunately been unable to obtain this volume, but both Berard³ and Delores refer to Gross² and quote him as having stated that Vautrin was the first to do this operation. It is difficult to understand why the name of Longuet should be given the operation, for with the exception of Vautrin the credit of having reported any number of cases as first operated on by this method belongs to Jabouley, who began to operate in 1894 and whose cases were reported by Berard, March 24, 1895,³ and who reported twelve cases successfully operated on by this method, or to Doyen³ who states that he began to operate in 1890, "or that he developed the idea at that time," but whose cases were not reported until November, 1895. The number of Doyen's cases are not stated, but he has in his article a very good cut descriptive of the operation. Since 1896 several French surgeons have reported cases,⁷ F. Legueu who reports twenty-two cases successfully operated on by this method, Delore⁵ and others.

In Germany Winkelman published a paper in 1898⁸ giving the history of twelve successful operations by this method. Winkelman in his article does not refer to the French surgeons as having originated it. The description of the operation as given by Longuet, Winkelman, Doyen or Jabouley all practically agree, differing only in minor details. The writer cannot perhaps describe the operation more concisely than by giving a somewhat liberal translation of Winkelman's description of the same.

"Incision down to sac of hydrocele. Incision of sac, 3-4 c.m. long from above downward, more toward the upper than the lower pole. After the hydrocele fluid has escaped the testicle is drawn completely out, so that the entire tunica vaginalis proper is turned inside out. The incision in the tunica then comes in relation with the insertion of the spermatic cord into the testicle, which incision may be shortened by suture or two so that the testicle cannot return through the opening of the tunica. The tunica and testicle are replaced in the scrotum with the result that the entire serous surface of the tunica vaginalis proper faces outward toward the loose connective tissue of the tunica vaginalis, with which it may soon become fused. The testicle lying outside the tunica, between the tunica and the scrotal wall. This bloodless operation is concluded by closure of the external wound in the scrotum. In the majority of cases the testicle is dislocated upward as the result of the operation." Drainage is not required. The only complication mentioned by any of the writers on the subject as occurring, that I have been able to find, is by Winkelman, who says, "a slight periorchitic swelling, due probably to the

saturation of the loose connective tissue interspaces with the secretion of the serous membrane may persist for some time. The same method has been used for hydrocele in connection with operations for hernia, operations for varicocele can be performed at the same time. This operation can be performed for double hydrocele by means of a single scrotal incision, followed by an incision made through the membrane separating the two sides of the scrotum. Winkelman does not consider it necessary to confine his patients to bed.

CONCLUSIONS.

1. That this is an easy operation to perform, and that it results in the cure of the hydrocele seems undoubtedly true.

2. The fact of so many operations having been recorded with the history of no unfavorable result as regards suppuration or neuralgia of the testis offers pretty conclusive evidence as to the safety of this operation from the above complications.

3. The effect it may have in causing atrophy of the testicle or changes in the function of that organ is a subject concerning which clinical data, extending over a long period of time, are necessary before final conclusions can be drawn.

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4. Longuet, *Presse Medicale*, October 31, 1900.

5. Berard (*Province Medicale*, March 24, 1895) describes the early experience of Jabouley in 1893.

6. E. Doyen, "Cure radicale de l'hydrocele par l'inversion de la tunique vaginale." *Arch. prov. de Chirurgie*, Nov., 1895, lv., p. 706 (with an illustration).

7. Legueu, "Du traitement de l'hydrocele par l'inversion de la vaginale." XIII. Congrès de Chirurgie, 1899.

8. Winkelman, "Neue Methods der Radikal Operation der Hydrocete," *Centralblatt für Chirurgie*, Nov. 5, 1898, No. 44.

Book Reviews.

Clinical Examination of the Urine and Urinary Diagnosis. By J. BERGEN OGDEN. Published by W. B. Saunders & Co., Philadelphia.

The author says in his preface that "the design of this work is to present in as concise a manner as possible the chemistry of the urine and its relation to physiological processes; the most approved working methods, both qualitative and quantitative; the diagnosis of diseases and disturbances of the kidneys and urinary passages." He has admirably performed these tasks. The volume consists of 400 odd pages, and is divided into two parts. Part I. deals with the chemical and microscopical examination of the urine, while Part II. is devoted to a consideration of the characters of the urine in various diseases of the kidneys and urinary tract and certain infective and constitutional diseases. At the outset it may be stated that the author is more at home in the laboratory than at the bedside, though this fact but little impairs the usefulness of the book.

Part I. is excellently conceived and well written. The directions for performing the various chemical tests are clear and concise, and for the most part the tests recommended can be performed by the general practitioner in his office. Many valuable practical suggestions are offered. I would call the attention of the author, however, to a statement made on p. 120 that albuminuria may result from alterations in the blood pressure in the kidneys. It is undoubtedly true that in many, if not all, cases of albuminuria there is a concomitant change in the blood pressure in the renal vessels, but this is not the causal factor. The albuminuria is the result of nutritional changes in the walls of the glomerular capillaries and in the glomerular epithelium whether these changes be brought about by a defective blood supply, as in renal congestion, or through the action of toxins.

A very important direction is given in describing the performance of Fehling's test for sugar: that the solution should not be boiled after the addition of the urine, as other organic substances than sugar, *e.g.*, uric acid, are then more likely to reduce the copper. The statement that Einhorn's saccharometer gives only approximate quantitative results is not in accord with the experience of an expert chemist, who says that the error is about 1-10 per cent. as compared with the quantitative Fehling test.

The author is too positive in his belief in the possibility of differentiating epithelial cells from the different parts of the urinary tract. Von Jaksch says the differentiation is very difficult, while Bizzozero and Eichhorst contend that the cellular type is the same for the bladder, ureters and renal pelvis. The reviewer has found that cells scraped from these three situations at the autopsy table and freshly examined present no morphological differences. It is unsafe to consider "any small round cell that is adherent to a cast of a renal cell."

Part II. is less satisfying than Part I. The descriptions lack acuity. Greater prominence is given to renal hyperemia than the condition justifies, and the consideration of "severe active hyperemia" as synonymous with "catarrhal nephritis" is misleading. Nor am I prepared to accept the author's classification of kidney

diseases. He describes an atrophic form of chronic parenchymatous nephritis with interstitial changes. Sir Samuel West doubts if such a transition ever occurs. The statement that "albumin is always present in the urine of chronic interstitial nephritis, even in the early stages," is not in accord with the accepted teachings. Nor in filariasis does the chyluria appear in diurnal or nocturnal cycles, as stated. The author has confounded the chyluria with the diurnal or nocturnal appearance of the embryos in the peripheral blood stream. The urine may be chylous for weeks or months at a time and then suddenly clear up. It is distinctly disappointing that not even mention of B-oxybutyric acid is made in the description of the urine of diabetic coma.

These criticisms have not been made for the purpose of discrediting the volume. It comprises the first attempt so far as the reviewer is aware to present the subject of urinary diagnosis in a comprehensive yet convenient form, and the author should be highly commended for his effort and the success of it. The book will be a valuable addition to any professional library. Lastly, the publishers deserve much praise for the execution of the colored plates and the press-work.

COLEMAN.

Hygiene of Prostitution and Venereal Diseases. A. BLASCKO. JENA: GUSTAV FISCHER, 1900.

This volume is the tenth part of Theodor Weyl's Treatise on Hygiene. The writer has been giving his attention to the social and medical aspect of prostitution for many years, and has published valuable contributions regarding this subject. In the present book he returns to the same burning question in a thoroughly objective manner, gives us a vivid picture of the spread and ravages of venereal diseases in the countries of Europe, and is of the opinion that "at the present day we find in North America, especially in the United States, the same condition of affairs as in the European cultured states." (P. 21.) As a basis of his theories, he used the statistical reports of army hospitals, police, private hospitals, and so-called "kranken-kassen." The best regulation of prostitution he found in Norway and Denmark, and regards those countries as offering a fair example of the condition of European prostitution. Gonorrhea represents 70 per cent. of all venereal diseases, and the relation of man to woman expressed in numbers is 1:4:1, *i.e.*, that one infected woman will propagate the disease to four men, which in their turn will infect one woman. In Copenhagen, which is a fair representative of other European large cities, those of the so-called better class, who do not marry before attaining thirty years of age, contract at least one gonorrhea during ten years of sexual life. In those ten years, out of one hundred men there will be 119 infections, *i.e.*, each will contract a gonorrhea, and some several times; while only eighteen will be infected with syphilis. The highest proportion of venereal diseases is found among the students of European high schools and universities, where during their four years of study each student at least once contracts a venereal disease. (P. 32.) Before them come workingmen, who give 30 per cent., and then soldiers. Men usually contract venereal diseases from illicit sexual intercourse, while women acquire the diseases in performing their duties as wives.

Regarding the prophylaxis of venereal diseases in prostitutes, he does not see any diminution of venereal diseases among men in various countries where regulation of prostitution is observed. It is due to the failure of enforcing regulation and inability to cure some venereal diseases, as gonorrhea. A vast number of

prostitutes is dismissed from the hospitals without its being known whether the gonorrhea is cured or not. The only good which regulation could do is to take hold of the young, most dangerous element of prostitution. The abolition of registration, the curbing of the police power is a necessity. Free treatment and voluntary attendance will bring better results than the present system of regulation.

Not only the prostituting class of human society must be taken care of, but attention must be paid to other classes of society; for these also free hospitals must be provided. Far more important is the spread of an accurate knowledge of venereal diseases and an unveiled representation of their sequelæ, not only in popular pamphlets, but in regular lectures for the benefit of the medical fraternity. The Prussian government recognizing on the one hand the immense importance of an accurate knowledge of venereal disease among physicians in Prussia, and on the other the superficial conception of the diseases which the German student carries with him from his alma mater after graduation, instituted free lectures in the Charité about venereal diseases.

LAPOWSKI.

UNIVERSITY OF CHICAGO

Society Transactions.

THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

Held at the Hotel Chamberlin, Old Point Comfort, Va., April 30, May 1 and 2, 1901.

The President, SAMUEL ALEXANDER, M.D., in the Chair.

Address by the President.—Dr. Samuel Alexander, of New York, delivered his address, in which he called the attention of the Association to the death of Dr. Fessenden F. Otis, a former president of the Association. He then presented the subject, "The Treatment of Intra-Peritoneal Traumatic Rupture of the Bladder by Laparotomy and Suture." His report consisted of 45 cases, with 23 deaths and 22 recoveries. After taking up the critical examination of the causes of death he then considered the etiology, and then presented the following questions: I. How can we prevent delay in operating upon these cases? He condemned the routine methods of diagnosis, especially the injection and the inflation tests. Both conditions required operation, and he advised that the operation should be begun by exploring the prevesical space, and if this was found to be healthy the incision could be extended upwards and the abdominal cavity opened. II. How shall we treat the peritoneal cavity to obtain the most thorough asepsis? He advised most thorough irrigations of the cavity with hot normal saline solutions. III. How can we most effectually close the bladder wound? It was not so much a question as to the material used as to the manner in which it was introduced. In the case he reported silk was used and the rent closed by a layer of interrupted Lembert sutures and reinforced by second layer of mattress sutures.

DISCUSSION.

DR. JOHN P. BRYSON, of St. Louis.—I cannot add very much to the discussion, but would like to say a word in regard to the suturing, especially in cases of extra peritoneal tears. This idea suggested itself in connection with the treatment of suprapubic fistula and other forms of fistula, particularly when accompanied by loss of substance. I have found that the wound was more readily made watertight when the operation was begun by splitting the mucous membrane off from the vesical wall, and then dissecting away a small part of the muscular coat so that, when the sutures were introduced, they included only the muscular coat. By drawing the muscular walls together, the mucous membrane was thrown up into a ridge, thus really making a valve. In several cases of fistula I have found this to be an admirable plan and excellent results were obtained. Of course, it cannot be done in all cases, and is not quite so necessary in intra-peritoneal as in extra-peritoneal ruptures.

DR. JAMES BELL, of Montreal.—I have had no personal experience in these cases, but I am fully in accord with the principles laid down by the author of the paper. Dr. Alexander has stated that not so much stress should be laid upon the material used for suturing as upon the manner in which it is used. Silk, of

course, is the only material at the present time that is suitable for suturing in these cases; yet, it occurs to me in connection with this that the well known facility with which it becomes septic might make it desirable to employ some other material. Neither can one depend upon ordinary catgut or other stiff sutures.

In regard to the cleansing of the peritoneal cavity I should be more inclined, I believe, to favor the more localized method of swabbing, for the reason that infecting lesions in the lower part of the abdomen spread upwards relatively slowly and, therefore, there is some risk of disseminating infection by general irrigation; on this account I believe that swabbing offers some advantages. I have not had any personal experience with such cases, and only make these few remarks on general principles.

DR. ARTHUR T. CABOT, of Boston.—Considerable experience has been gained by every surgeon in the repair of injuries occurring in the bladder during laparotomy. I have had one such case where the greatly misplaced bladder was opened during the removal of an ovarian cyst. The opening was closed by Lembert sutures, and no trouble followed. When closing an opening on the peritoneal side of the bladder, it is of great importance not to include the mucous membrane of the bladder in the stitches. In regard to suture material, the only objection to silk is the fear that it will find its way into the bladder and be the cause of stone formation. In an extensive rupture, I should prefer to use a line of catgut stitches close to the edges of the rent, with an outside line, of silk stitches to bear the strain.

The tolerance of the peritoneum to urine was well shown in an interesting case in my wards this year.

A patient had been stabbed in the abdomen thirty-six hours before operation. In my absence, the abdomen was opened by Dr. Mixter, who found that the stab wound had opened the pelvis of the kidney and also had injured the renal artery. In order to stop the hemorrhage, he removed the kidney, the abdomen was thoroughly irrigated with salt solution and drained by extensive packing with gauze. The patient made a good recovery.

I agree with Dr. Alexander that the operation should be done early.

I do not consider a median laparotomy dangerous and think that the abdomen should be opened in any case of doubt where the nature of the injury and the symptoms give any strong suggestion of a probable rupture of the bladder.

DR. GEORGE CHISMORE, of San Francisco.—I have had no personal experience except in a single instance which presented some points of interest. Four or five years ago a young man was operated upon in San Francisco for an inguinal hernia, from which he made a good recovery. About two years afterwards he came under my care with stone in the bladder. I removed the stone and found two silk ligatures as nuclei. I then made it my business to see the surgeon who had operated upon the inguinal hernia, and he told me that there was a large amount of the bladder area in the hernial sac which he had excised before he recognized it, and in bringing the parts together he had used silk ligatures. The points of interest in this case are several; a wound made in the bladder in the performance of a radical cure of inguinal hernia; repair of that wound by means of silk ligatures; the good recovery made by the patient; the subsequent history of the ligatures.

DR. PAUL THORNDIKE, of Boston.—Dr. Alexander has alluded to the injection of fluid as an aid in diagnosis. I wish to mention one case in which this method of aid was used. It was a case of prevesical rupture, and the instrument used for

injecting was a Coudé catheter; the amount of fluid returned was within two drachms of the amount injected. I recollect that I was so sure of my diagnosis, made from the clinical history, that I decided to operate. I found that the catheter had slipped into the prevesical space and the fluid was injected there, and so the amount recovered quite equalled the amount injected. Therefore, I do not believe that this is always a reliable test.

DR. EDWARD MARTIN, of Philadelphia.—The point that I am particularly interested in is that referring to the question of diagnosis, and I think that both the medical literature and personal experience prove that we may have cases of very serious injury without immediate symptoms. I have seen such cases with no symptoms suggesting any serious lesion in the abdomen until after the advent of inflammatory symptoms. I have always felt that the injection test was a dangerous one as well as misleading. A history of abdominal injury, followed by retention of urine, and the evacuation of blood by catheter, should usually be considered indications for operation.

As to the choice of suture material even catgut may form the nucleus of a stone. My experience in extra-peritoneal suturing of the bladder leads me to prefer silk.

DR. L. BOLTON BANGS, of New York.—My experience in rupture of the bladder is limited to two cases, one being an intra-peritoneal rupture, the patient dying rapidly from septic peritonitis which was verified at autopsy; the other was extra-peritoneal rupture into the prevesical space and the opening made into the bladder for drainage purposes sufficed to cure the patient. I think the method of applying the suture is of more importance than the character of the suture itself.

DR. JAMES P. TUTTLE, of New York.—I wish to call attention to one practical point in regard to flooding the peritoneal cavity during rupture of the bladder. In operating upon the bladder for carcinoma I have seen four instances in which the bladder was ruptured by traumatism, and in only one did death follow, that patient dying, I believe, on account of elevating the foot of the bed. In cases where there is leakage the patients should be kept in the upright position in order to keep the discharges from the bladder down in the pelvis and make the drainage effectual.

In regard to the flushing out I am perfectly in accord with the opinion expressed that flushings of the abdominal cavity are very much more liable to spread and increase the peritonitis than if we cleanse the peritoneal cavity by dry toilet.

DR. F. TILDEN BROWN, of New York.—I have had no experience in rupture of the bladder, but I have a word to say in regard to making a diagnosis. It seems to me that in ignoring the cystoscope we are overlooking a very decided aid in arriving at a diagnosis if the symptoms cannot clear up the certainty. If any one is going to take the trouble to irrigate the bladder and measure the amount thrown in and the amount recovered, I think it would aid matters to take advantage of the time of irrigation to insert a cystoscope. Since slight hemorrhagic foci, or slight abnormal conditions of the bladder are easily detected, why, in conjunction with the clinical history of rupture would not a considerable bloody rent or such free hemorrhage as to preclude any observation be sufficient to justify the diagnosis of rupture?

DR. ALEXANDER (closing the discussion.)—The use of the cystoscope is absolutely impossible as an aid to diagnosis in these cases. My personal experience in intra-peritoneal rupture, and the experience of my colleagues, shows that it is

absolutely impossible to use such an instrument, because the injured part simply bled, bled, bled, all the time. The suggestion that "if it could be done" is a good one, but practically we cannot make a cystoscopic examination.

Report of a Case of Nephrectomy for Adeno-Carcinoma; with Remarks on Combined Cystoscopy and Segregation as a Guide to the Earlier Surgical Intervention.—DR. JOHN P. BRYSON, of St. Louis, made a report of such a case. Looking to the history and the physical examination up to the point of cystoscopy, there was only the absence of a vesical symptomatology to justify exclusion of the bladder as a source of the hemorrhage, and this was far from exclusive. A vesical papilloma situated behind and above the trigone may have produced the same kind of manifestation. Urethral and prostatic hemorrhage were easily excluded and the vesical symptoms accompanying the entire hemorrhage were referable to the clotting of blood in the bladder. There was entire absence of a history of renal symptoms during the entire attack. The first satisfactory step in the location of the source of mischief was in cystoscopy. This revealed a normal bladder and two normally situated ureteral orifices. While it was true that the injection of the left orifice and the gradual clouding of that part of the cystoscopic field as the observations progressed raised strong suspicion of the source of the bleeding, and while it was equally true that subsequent and more extended observation might have given more conclusive evidence in the way of a blood spurt when the bleeding was more active, the real and practical value of the cystoscopy was in excluding that viscus as the source of the bleeding and preparing the way for a segregation. Segregation with the Harris instrument was easily and almost painlessly done, and gave evidence of the highest value in determining the justification, not to say the necessity, for doing an exploratory operation. In looking at the tables presented he thought that one could easily conclude that (1) the two specimens came from the different kidneys; (2) the right kidney was functioning normally; (3) the left kidney was the source of the hemorrhage and (4) the left kidney was in such a state of irritation as to determine a uni-lateral polyuria, albuminuria, mild bacteriuria and pyuria.

The lower specific gravity, the greater quantity and the amount of albumin, out of proportion to the amount of pus and blood, tended strongly to eliminate the ureter and pelvis as the seat of the mischief, and thus to carry it quite into the renal parenchyma. Of cryoscopy he had not yet had much experience, but he instituted a phloridzine test with a lively appreciation of its practical value. In at least three cases it had been of excellent service and was impressed upon him that it is, in connection with the separation of the urines (F. Tilden Brown) capable of greatly enlarging our field of direct observations of renal capability. In the effort to determine the relative adequacy and permeability we have been accustomed to give the greater weight, the quantity and specific gravity of the separated urines. The ascertaining of the relative functional capabilities of the two kidneys, does not give us all the information required in regard to the kidney which is to remain and do the whole work of excreting. The matter of the relative excretion of urea may have been too much overlooked, but we cannot well tell how well a kidney may be doing until we know what the blood brings to it, and the antecedents of urea in the blood are, so far as we know, influenced by so many and varying conditions that it is difficult to bring it within a working formula. Cryoscopy may be of service in this matter, but the phloridzine test appears to have the greater value. If relative urea excretions vary so greatly as to effect the value of the observation,

which covers but $\frac{1}{100}$ th of the time of daily kidney function, the permeability is quite as much affected by varying conditions of the other viscera. The heart, arteries and lungs, the brain and nervous system, and organs concerned in digestion, all have to do with the permeability of the kidney. It would be but a one-sided pathology and too narrow specialism which should fail to take into account the relationship of the condition and functional activity of other important organs as their changes affect the kidney and its work.

DISCUSSION.

DR. WILLIAM K. OTIS, of New York.—I feel certain that Dr. Bryson is to be congratulated upon the early discovery of the condition of the kidney in the case reported. As a rule, these cases do not come to the surgeon before the disease has progressed to such an extent that it is almost past any operative intervention. The determination of blood from either kidney is certainly sufficient of itself to warrant an explanatory operation, and even an exploratory operation itself may not give a true indication of the condition present. Recently I had a case from Dr. McBurney in which to catheterize the ureters where the left kidney was felt to be enlarged. Catheterization of the left ureter showed bloody urine in large amounts, and the bladder appeared to be free from any growth. The right ureter was not catheterized on account of the difficulty encountered in performing this operation. The left kidney was explored and absolutely nothing was found and, instead of being enlarged as it was supposed to be, it was found to be even smaller than it should be normally. After the patient had fully recovered from this operation the ureters were catheterized a second time and, on this occasion, blood came from both ureters. That is the present condition of affairs. The ureters were catheterized on two different occasions, no scratching was done by the catheters, and yet blood appeared from both kidneys. The case is still *in statu quo*.

I do not believe that cryoscopy has any great future on account of the great difficulties encountered in determining the freezing point of urine and blood. The ability, the apparatus and the time required will not allow this operation to become popular, even in the hands of specialists.

Regarding the source of the hemorrhage I regard the test with iodine of value in determining whether it is from the bladder or not. This is a very simple test and consists in introducing into the bladder two ounces of a seven-grain-to-the-ounce solution of iodide of potassium and allowing the patient to spit into a cup two hours afterwards. If any hemorrhage is present in the bladder there will be iodine shown in the saliva when starch is added, forming the blue iodide of starch. If there is no lesion of the bladder the test will be negative.

DR. F. TILDEN BROWN, of New York.—All renal neoplasms are of great interest, and I believe that Dr. Bryson has made a valuable contribution in bringing out the well investigated features in the case reported by him.

In cryoscopy I have had no experience, but I think it will be long before such a method can become popular on account of its uncertainty and, also, because of the reluctance many patients must have to giving up 20 c.c. of blood, as well as the same amount of urine from each ureter. These are the smallest quantities that can be used to get the functioning capacity of the kidney by this method, and I believe that Casper's suggestion, if it proves to be of value, is much more simple and more available. Any method of collecting which yields separate urine from each kidney is of the greatest value in many cases for diagnostic purposes.

Through the kindness of Dr. McBurney it is my privilege to report a case

more or less in keeping with the one reported by Dr. Bryson. The patient was a young woman, about thirty-one years, a professional nurse, a very energetic person who, after nursing at some military camp, two years ago returned home partly because of an attack of dysentery. When nearly well she took a bicycle ride and had a sharp attack of hematuria with some right lumbar pain. Dr. McBurney saw the case and suspected that the right kidney contained a calculus. On cutting down upon the kidney nothing was to be felt within the pelvis or parenchyma. The kidney was fixed by suture at a slightly higher level. The patient was better for awhile, when the bleedings returned. I speak of this preliminary examination by Dr. McBurney two years ago because, at that time, there was evidently starting a neoplasm, and yet there were no evidences of its existence when the organ was palpated for stone or other disease to explain the hematuria and slight pain. Shortly after I catheterized the ureters—I have done so two or three times since—and there has been found a right hematuria with normal left urine. The hematuria was at times quite marked. Lately moderate palpation of the kidney would start such bleeding as though one was pressing a sponge. There were no tubercle bacilli in this right kidney urine, and no growth upon culture media, no evidences of stone, and the diagnosis was extremely difficult. But for the foregoing reasons, and in view of the fact that, at the last examination, in March, the kidney was felt to be enlarged, a diagnosis of neoplasm was made. I had the privilege of seeing Dr. McBurney's operation on April 7th, when the nephrectomy was done through a transverse, extra-peritoneal incision. The organ weighed nearly eleven ounces and was so firmly attached to the supra-renal body as to make the nucleation quite difficult. The adrenal was then removed. The kidney showed beautifully that the growth had started at the upper pole and extended downward and laterally into all parts of the kidney, as well as distending the pelvis. A description of all its minute structure I have as yet been unable to get from the pathologist. Our own hasty examination of a single section strongly suggests an adeno-carcinoma. The pelvis was filled with a large outgrowth about the size of an egg. Only at the lower pole of the kidney could three of the greatly compressed pyramids be seen, covered by a thin cortex. The patient made a good recovery, and has been sitting up during the past week. The wound has entirely closed. The coloring and outlines of the neoplasm are well represented in these drawings, although the artist has failed to convey the staphylomatous development of the tumor, so easily to be followed in the original.

DR. JOHN P. BRYSON (closing the discussion.)—The paper was written in order to bring out certain questions involved in the early diagnosis of these cases. I have had but a recent acquaintance with the phloridzine test. In one instance which had been studied carefully and in which both kidneys were suspected to be involved, it was ascertained by the use of this test that no sugar appeared in the segregated urine from either ureter after fifteen grains of phloridzine had been administered. Later no sugar was found in the mixed urines after the ingestion of twenty grains of phloridzine. It seems that both kidneys were so much involved that their ability to convert the phloridzine into sugar was interfered with, I think that some advantage may be derived from the phloridzine test; and, again, there are doubtless sources of error, especially so far as operative indications are concerned.

It is doubtless within the experience of many of us that a moderate degree of disease in the opposite kidney does not always contra-indicate nephrectomy. This we see especially in those cases of nephrectomy for tuberculous disease. In other

cases, I have seen the albumin, blood and casts disappear from the urine of the remaining kidney after nephrectomy. We shall doubtless learn more of these changes as we separate the urine more frequently in the course of our work, and thus have more confidence in the performance of nephrectomy. Whether the phloridzine test may not prevent the doing of a nephrectomy in just such cases as this is one of the limitations of the procedure which is to be determined in the future. This can best be done by the application of the test in association with segregation in the course of our operative work. The danger is that the phlorad-zine test may stay the operating hand to the disadvantage of the patient.

In one instance where I knew there was one sound kidney (so far as frequent examinations and segregations of urine could determine) I got sugar from the right sound kidney in three-quarters of an hour after the phloridzine had been given, but none came from the left kidney, which was known to be damaged and inadequate. In a third case where one kidney was the seat of calculus, and from which small calculi had passed, the right kidney, which was sound, yielded a decided amount of sugar, while the left kidney yielded a mere trace after the administration of phloridzine.

The Value of the X-Ray in the Diagnosis of Renal Stone: Report of Four Cases. —DR. PAUL THORNDYKE, of Boston, made a brief report of these four cases, not in order to show beautiful X-ray plates of kidneys containing calculi, but because the cases were studied by the same people under the same conditions and show results, partly negative in character, which the writer deemed of enough interest to justify their presentation. It seemed to be true that stones which contained mineral salts are much more readily photographed than others, and yet two of these cases were made of layers of uric acid and in both, distinct shadows were evident, while in one of them the stones were shown with considerable clearness, probably due to the admixture of urates in the former and of calcium phosphate in the latter case. It would seem that there was something to expect from X-ray photography in connection with the diagnosis of renal stone, for in those cases, even when there is every clinical reason for thinking that a stone if present is composed of uric acid, it evidently needs only a small amount of urates or some other mineral salt to give a shadow which although it does not show for much on the plate, is still capable of being recognized with some degree of precision by properly experienced observers.

In conclusion he referred to the various methods of exploring a kidney. Some time ago he was present at a lecture and heard reference made to the lifting the kidney onto the loin and then splitting it along its convex border in such a way as to expose its whole interior to easy examination. The lecturer said he had never been able to do this, and had tried many times. His experience with renal cases was not large (probably fifteen cases would cover all the strictly exploratory operations he had ever done, not, of course, including among them the operation for drainage of pus), but he had been able to carry out this exploratory technique in six instances and had never had the least trouble from hemorrhage or otherwise, either during or at any time subsequent to the operation. In some stout people it is a practical impossibility to carry out this method of investigation, and efforts to do so should not be persisted in, but in many patients of average weight the procedure was not difficult and could be accomplished with no undue tension upon the renal vessels. It was the writer's belief that in cases where it can be done it is far less likely to permanently injure the renal tissues than the

less certain and far less satisfactory method of exploring the kidney with the finger through an opening made in the kidney substance or in the convex border. It was the writer's practice to endeavor so to expose the kidney in every exploratory operation he performs, and it was satisfactory to realize how often it is easily possible to do.

DISCUSSION.

DR. ARTHUR T. CABOT, of Boston, presented a series of skiagraphs, four in number, showing stones in the bladder or ureter and in each case the actual stone was shown beside the picture. In all of them the shadows of the stones were perfectly distinct, and in one of a very irregular stone, the irregularities were exactly reproduced in the skiagraph.

Dr. Cabot also spoke of a case of stone in the kidney reported by Dr. James M. Jackson, at a recent Clinical Meeting of the Massachusetts General Hospital Staff. Dr. Jackson showed a series of skiagraphs, in the first of which four stones were present, and in the later ones there was a disappearance of the stones. The patient was treated by lycetol and the evidence, as far as it could be obtained, seemed to show that an actual solution of the stones was brought about in that way. The observation was necessarily incomplete, but is certainly suggestive.

In connection with the procedure of splitting of the kidney, Dr. Cabot called attention to Becker's recent article in the Johns Hopkins' Reports. It dealt with the question of the distribution of the vessels of the kidney and showed that the longitudinal line just behind the extreme convexity of the kidney was very sparingly supplied with vessels, so that the knife could be passed through that region into the pelvis without dividing an artery of any considerable size. Dr. Cabot called attention to the assistance which might be obtained in holding the kidney well up in the wound during such an exploration, by passing a thick band of gauze around it, which drawing it forward would hold it in place and by pulling on the vessels would assist in controlling hemorrhage.

DR. L. BOLTON BANGS, of New York.—This question of determining the presence of stone in the kidney beforehand interests me very much. I have had some interesting negative as well as positive experiences. As to the question of defining just what the X-rays are able to show us, I have come to the conclusion that it must be done by an expert, one with a trained eye, and so I send all my cases to Dr. Alexander B. Johnson, a trained surgeon and anatomist, and a clever user of this mode of electricity. He has produced some very interesting skiagraphs for me. I should like to narrate one or two interesting experiences. Dr. Johnson defined for me, in a patient who was supposed to be the subject of a real stone, a shadow, and he was as positive as I was that a stone was present in the kidney; we had a consultation with Dr. McBurney, and all came to the conclusion that a stone was present and the kidney should be explored. I opened the loin with a curved incision. The kidney was liberally freed from all attachments and brought out. No stone was found; needling revealed no stone. The kidney was opened freely, the pelvis was examined carefully, as were all parts of the kidney, and yet no stone was found. Recalling the shadow shown in the skiagraph I examined that pole of the kidney; not satisfied with my own examination I asked my assistant also to examine and explore the kidney for me. No stone was found. The patient made a rapid recovery and left the Sanatorium in two weeks. He went south. I wondered at the time if the stone had been overlooked because the skiagraph was so positive. About two weeks ago this patient returned and is absolutely well from

all pain. The microscopical examination of the urine shows a normal condition.

Another experience I should like to narrate is one similar to that of Dr. Cabot. A patient with characteristic symptoms of stone in the kidney was sent to me for operation "if I thought best." He had been under a medical friend's care for some weeks. I decided to postpone any operative intervention and to watch him. I had a skiagraph taken, which showed no stone in the kidney; a subsequent skiagraph shows a shadow in the ureter. In the meantime I had him massaged. Successive photographs show the descent of the stone through the ureter, with symptoms of stone in the ureter, and the descent being determined also by the anatomical symptoms that were present. I wrote to Dr. Bryson asking him for a copy of his researches, and I found that they coincided with mine. Finally the symptoms were those showing the location of the stone at or near the mouth of the ureter. A searcher was introduced and a delicate thrill was obtained; within forty-eight hours the stone was passed.

DR. CABOT.—In connection with Dr. Bangs' observation of the effect of massage in assisting the passage of kidney stones, Dr. Cabot recalled a case already reported, in which he had succeeded by that same manipulation in forcing a stone along the ureter into the bladder.

DR. L. BOLTON BANGS, of New York.—I am reminded of a patient of mine who was cured by an examination by Dr. Janeway, which suggested to me the possibility of benefiting these patients by massage. The patient came to me with unmistakable evidences of stone and, before consenting to operation, asked for a medical consultant. Dr. Janeway examined him, and within four hours the patient expelled through the ureter and bladder three stones which were undoubtedly the source of distress. I thought then that massage, in these cases, might be of value.

DR. HARVEY G. MUDD, of St. Louis.—I have in my trunk X-ray photographs showing two small and one large stones in the kidney. The patient's condition did not justify an operation, but she came to post-mortem and stones were found just where the X-ray had photographed them. Stones were uratic, in soft, sandy masses.

DR. F. TILDEN BROWN, of New York.—At the invitation of Dr. Cabot I wish to show some of Dr. Alexander B. Johnson's excellent work. The first radiograph is that of a young man, a patient of Dr. Eliot's, at the Presbyterian Hospital, New York. He came in two months ago with all the clinical symptoms of left renal calculus, and he was referred to me for examination. Catheterization of each ureter disclosed a slight pyelonephritis on the left side. I suggested that an X-ray picture be taken by Dr. Johnson. This was done with the result that an excellent shadow of stone was obtained, as here shown, on the left side. There was one feature in the operation, which I have done a few times myself, and which has impressed me favorably, *i. e.*, the value of the posterior approach to the stone when it occupies a position within the pelvis. Where the stones are in the kidney tissue proper, as in two of Dr. Thorndike's cases, it is necessary to bring the kidney out upon the loin in order to thoroughly explore it. When in the pelvis, however, I think it better to reach the stone through the posterior portion of the pelvis, rather than through the kidney.

Since the posterior wall of the pelvis is practically exempt from blood-vessels the stretched incision can be wholly closed by sutures. The stone, about the size of a small hickory-nut, is here shown with the picture of it. Here is another of Dr. Johnson's radiographs of some interest. In 1898 a woman came to the hospital with pyo-nephrosis. An examination of the ureters at that time showed a

complete occlusion of the right ureter, and the catheter stopped at a distance of three inches or just below the sacral brim. A stone was occluding the ureter. The kidney was large and painful. I first opened the abdomen and attempted to dislodge the stone, but this effort was unavailable, for I could not work it upwards or downwards. I then did a nephrotomy. Shortly after this active bleeding appeared, the blood appearing through the lumbar wound and increased in amount until, at the end of twenty-four hours, the patient's life was in jeopardy. It was a question as to whether it came from the ureter or not. I was compelled to do a nephrectomy to check the hemorrhage. The question that was of interest, what had become of the stone left three years ago in the ureter? I asked Dr. Johnson to take an X-ray picture to see if the stone was still there. This excellent picture shows it to be in the same situation. It has given rise to no symptoms.

I wish here to show another of Dr. Johnson's skiagraphs illustrating the occasional value of the combination of passing the ureteral catheter to the kidney, and the inserting the fine metal stylet as the preparatory step to taking an X-ray picture. In this particular case we were able to demonstrate by the method that the painful tumefaction in the right iliac region was not a displaced and diseased kidney.

Besides the above the same picture shows translucent spaces at the brim of the pelvis and I should like to ask what these are. We supposed them to be collections of air within the cecum and ascending colon.

DR. ARTHUR T. CABOT, of Boston.—The bowels should be emptied before the skiagraph is taken, in order to get rid of solid contents which might obscure the picture.

DR. L. BOLTON BANGS, of New York.—There is another point I should like to add in regard to the skiagraph. I have come to the conclusion that the eye must be trained to define these cases. I have had two cases who were sent to Dr. Johnson to have an X-ray taken. In every photograph taken there was found what I and Dr. Johnson supposed to be phleboliths. I should like to know the experience of others. Another case revealed the same thing.

DR. WILLIAM K. OTIS, of New York.—In regard to the detection of stone in the kidney by these X-ray photographs I think certain advantages are to be gained by this method of diagnosis, but we must recollect that it can only be done by the best apparatus in skilled hands. There are certain disadvantages in that occasionally pictures may be taken which will not show the stones when they are present. Also, this method may apparently demonstrate stones when they do not exist. These pictures shown to-day are the best examples of X-ray photographs that have ever been produced. Certain kinds of stones show no shadow, such as the phosphatic.

DR. SAMUEL ALEXANDER, of New York.—I think that Dr. Martin, of Philadelphia, was the first to bring this subject before the Association in Washington, six years ago and I am sure the members would like to hear from him.

DR. EDWARD MARTIN, of Philadelphia.—The Chairman has a good memory, but the pictures taken then did not compare with what we have seen since. During the last six years I have had considerable experience as to the diagnostic value of the X-ray pictures. These pictures have been chiefly made by a man of exceptional skill and experience. He has a belief in the X-ray, so absolute as to suggest that he deems it inspired. At his hands I have had stones diagnosed which were not found on operation. He failed to find stones which were subsequently removed by operation. We have cases of "syphilophobia," and I believe we may have cases

of "calculiphobia" as well. There was recently a medical man who went about the country consulting many doctors for the relief of a renal condition. He was supposed to have tuberculosis, movable kidney, stone, or some psychological condition. An X-ray picture finally demonstrated beyond peradventure a ureteral calculus. My own experience with the X-ray made me in the absence of other convincing symptoms advise against operation. He had little trouble in securing a surgeon, however. An operation was performed. The kidney was explored, not being opened at all, and was secured in place by Senn's method of anchoring. Acute mania, probably from iodoform, developed, and the patient died within a week. The autopsy revealed nothing in the ureters or the pelvis of the kidneys. Without underestimating the value of the X-ray in the diagnosis of renal calculus, I must have its evidence plain to my own eye and associated with concomitant symptoms before I feel justified in advising an operation.

DR. JAMES BELL, of Montreal.—I have in mind photographs taken in a case which first showed four stones, then three, then two and finally none, and the inference was that they were dissolved and carried away. I should like to know if any one believes that stones in the kidney can be dissolved by piperazin, or any other drug. I am rather skeptical on that point.

DR. JOHN P. BRYSON, of St. Louis.—I have seen no such results as have been reported as following the use of lithotriptics. I had one case, an Italian, where eight small stones, composed of oxalate of lime, were removed from the kidney after large doses of piperazine had been administered. All eight of them were small and seemed to present some evidences of the solvent action of the drug on their surfaces. They were mealy looking and the white powder could be rubbed off. With lycetol I have had no experience. I have seen cases of renal colic after the administration of these drugs, but whether it was a coincidence or a consequence is doubtful.

I agree with Dr. Thorndike, that the kidney should be split and thoroughly examined after it has been exposed. I have had one experience with the method suggested by Dr. Cabot: that of using a loop of gauze to luxate the kidney, and found it of much service. The loin was very thick and the pedicle short, so that the kidney could only be brought up into, but not out of, the incision. The gauze, twisted into loose rope, was carried round the front of the kidney and moderate traction controlled the bleeding. I, too, have been struck with the fact that splitting the kidney in its long axis and from its convex border is followed by so small an amount of hemorrhage, even when the pedicle is not compressed. I think it is necessary in all cases where we expose the kidney to explore it thoroughly and, if a suspicion of stone or parenchymatous neoplasm exists, the organ should be split, this being the only means of doing it satisfactorily.

DR. JAMES P. TUTTLE, of New York.—I have had no experience with pulling the kidney out of the abdomen with a gauze rope. I have seen one instance of such a thing in the hands of another surgeon. The gauze rope was applied to hold the kidney and was placed in charge of an assistant. Whether it was the assistant's fault, or the surgeon's, I do not know, but suddenly the kidney flew across the room, being pulled loose from all its attachments.

[TO BE CONTINUED].

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REPORT OF A UNIQUE CASE OF DERMATITIS HERPETIFORMIS PUSTULOSA, WITH ITS HISTOPATHOLOGY.*

BY WM. P. LOTH, M.D.,
St. Louis.

THE patient, Wm. C., is twenty-seven years old, married, and a motorman by occupation. His family history is negative. Eight years ago he had gonorrhea and a bubo, which suppurated and was incised. Two and one-half years ago he had an affection of the right eye, for which he was treated at the Vanderbilt Clinic in New York City, where he was told that the condition was a specific iritis. Under hypodermic injections of mercury the iritis rapidly improved, and subsequently the patient took pills for a number of months. He remembers nothing of an initial lesion, any previous eruption, or glandular enlargement, other than the bubo which accompanied the attack of gonorrhea. Three months his testicles became enlarged and painful, without apparent cause. The glands in the inguinal region were also enlarged. Under rest and application of poultices, the condition very quickly subsided. Ten months ago the patient married; his wife has always been healthy. Five months ago she had a miscarriage, without apparent reason. Two months before his present trouble an ulcer developed on the glans penis of the patient; this was painful, but was not attended with glandular involvement.

* Read before the St. Louis Medical Science Club, May 14, 1901.

His wife at this time had a leucorrheal discharge. The ulcer healed under local treatment in ten days.

The present affection dates from about March 20th. On reaching home from his work the patient was seized with intolerable itching over the entire covered portion of the body excepting the feet; the pruritus extended from the ankles to the neck and on the arms to the wrists, and was of uniform intensity everywhere. This paroxysm lasted about two hours, and on examination, the patient found that the parts involved were more or less extensively covered with bright red "spots," which, in a day or two, changed to "blisters." New lesions appeared from time to time, while the older blisters either dried or ruptured, their contents drying into thick, yellowish-green crusts. The appearance of new lesions was attended with marked pruritus, but the subjective sensation attending the older lesions was rather that of a burning pain, which was very severe. The distribution of the eruption was general from the beginning, the new lesions appearing in the midst of older ones. With the exception of the pruritus and burning pain, subjective symptoms were entirely absent, and there was no rise of temperature. Careful questioning elicited no history of anger, fright, shock, etc. The patient had formerly been a gripman, and said that since he had become a motorman he was under greater mental strain constantly.

The patient was first seen at the City Hospital on April 10th, about two weeks after the appearance of the eruption. Physical examination showed nothing abnormal referable to any of the internal organs. The glands in the left inguinal region and both axillæ were enlarged. A recent scar was present on the glans penis. The right eye showed evidence of having been the seat of a pathological process.

The eruption covered the entire body excepting the hands, feet, and face. The lower portion of the abdomen was the seat of lesions in such numbers that the appearance from a slight distance was of one confluent patch. About the scrotum, the inner surfaces of the thighs, and the axillæ, the lesions were also more numerous, while on the chest, back, arms and legs they were more diffuse. The lesions consisted of pustules, vesico-pustules, pustular bullæ, and greenish-yellow crusts on inflammatory bases. The primary lesion appeared to be a small vesico-pustule on an inflammatory base; this rapidly increased in size, its growth being attended by a spreading areola. In older lesions the contents had begun to desiccate, forming a greenish-yellow crust, while the periphery was undergoing pustulation, with the appearance of new lesions grouped about it. The eccentric growth of the lesion was clearly evident, while in places the corymbose formation was especially

marked, consisting of a central older lesion, surrounded by a group of recent pustules. On the abdomen and thighs, many of the pustules had coalesced, forming patches with festooned borders, with here and there a large tense or flaccid bulla, or thick, adherent crust.

The most striking feature of the eruption as a whole was the grouping of the lesions on erythematous bases. The pustules and bullæ were very easily ruptured, and apparently all terminated in this way, the fluid soon drying into thick crusts. In some of the lesions suppuration would continue under the crust, the inflammatory areola would increase and in turn be thrown up into an encircling ring of pus.

At no time after the patient entered the hospital did his temperature rise above 99.6°. He complained greatly of the severe burning pain, which was most intense about the abdomen, and which prevented the patient from sleeping without hypnotics.

Inoculations on the various culture media were made from several pustules, the usual methods being followed in obtaining the pus for the inoculations. Growth resulted in forty-eight hours, which proved to be pure cultures of staphylococci. The urine was found to be clear, amber in color, of a specific gravity of 1030, contained no albumin, but gave a very marked reaction for indican and contained numerous crystals of uric acid and oxalates. Examination of the blood showed the red cells apparently normal in form, size, and number, a slight leucocytosis, and the presence of a very marked eosinophilia. Microscopic examination of the contents of the lesions, spread on cover-glasses, showed dense masses of leucocytes and eosinophile cells.

During the next few days a number of new lesions appeared on various parts of the body. A fresh lesion was excised from the forearm, and half of it fixed in Fleming's Solution, the other half being placed directly in alcohol. An older lesion was excised from the right chest, and half of it placed in 4 per cent. formaldehyde solution, the rest in alcohol.

The lesions were dressed with Carron oil, and the patient was given Fowler's Solution, M. V. three times daily, increasing one minim each day, and also calomel, gr. $\frac{1}{10}$ three times daily. The progress of the affection appeared to be at once arrested, and the patient felt more comfortable. The glands in the axillæ, especially on the left side, which was most involved, began to increase in size. One week later the examination of the urine showed a specific gravity of 1020, with the indican reaction and oxalates still present, but much less marked. Most of the lesions had dried; many of the crusts had come away under the oily dressing, leaving a deep red pigmented area, while here and there lesions still showed pustulation.

Examination of sections from the earliest lesion, which clinically was a minute vesico-pustule on an inflammatory base, shows that the process begins in, and at first is limited entirely to, the rete. The surrounding portions of the papillæ show a marked cellular infiltration, while the horny layer is apparently normal. Other sections show the vesicle formation beginning at three points in very close proximity; these soon unite to form a unilocular vesicle or bulla by the disappearance of the intervening portions of rete by pressure. Sections of the lesion at this stage stained by Gram did not show the presence of any organisms whatever. The cellular infiltration in the corium is limited to three or four papillæ and the upper part of the reticular portion, and consists of leucocytes, with lymphoid and connective tissue cells. The contents of the minute vesicle consist of coagulated albumin, fibrin, many leucocytes and small round cells. There is some edema in the rete, and the nuclei of the cells are increased in size. The portion of the lesion which had been fixed in Fleming's Solution did not show any additional changes.

Examination of sections from the older lesion, which was clinically a crushed pustule, shows that the entire epidermis and upper part of the corium is involved, the normal structure being entirely replaced, so that all evidence of a line of demarcation between rete and corium is lost. The borders of the lesion are not clearly marked, as the cellular infiltration gradually decreases in amount in both rete and corium, and extends for some distance in all directions. The pustule is filled with a dense mass of cells, largely leucocytes and lymphoid cells, fibrin, coagulated albumin, detritus, and is capped with a crust. Even in sections not specifically stained for them, organisms can be seen in great quantity. The walls of the vessels are thickened. In the corium there are many leucocytes and connective-tissue cells, with some mast cells, scattered about, but especially abundant in the upper portion and about the vessels. In sections stained by Gram's method many staphylococci are seen, not only in the lesion itself, but extending into the corium.

The histologic findings noted in the initial lesion agree with those of Leredde¹, Fordyce² and of Wende and Pease³, all of whom report the process as beginning entirely in the rete; on the other hand, the case reported by Gilchrist⁴ showed the first changes in the papillæ, entirely beneath and not in the epidermis. Unna⁵, also, who classes this affection under the hydroa group, describes the chief pathologic changes as occurring in papillary bodies and Gastou and Leredde⁶ describe the vesicle formation as taking place between the epidermis and corium. Sections from a case of Dr. Engman, which he was kind enough to

allow me to examine, also showed that the corium is the seat of the primary changes. In all of the latter cases the affection was of the vesicular or erythematous type. The findings in the sections from the older lesion differ entirely from those noted in all of the cases referred to. The presence of the staphylococci and the full development of the pustule are accompanied by evidence of an inflammatory process of much greater severity than occurs in the vesicular and erythematous variety of dermatitis herpetiformis.

On April 19th, about one month after the first symptom of the disease, a very marked infiltration was noted, involving most of the lesions, which had also assumed a brownish-red color. The eruption now presented the appearance of a typical large, flat, papular or tubercular syphilide; on the back, where thick crusts were still adherent, the picture was that of a flat pustular syphilide, the dark, thick crust on ham-colored, firm, sharply defined bases, suggesting a severe specific infection. This infiltration and characteristic color did not involve all the lesions; those situated about the clavicles showed absolutely no infiltration, presenting merely brown discoloration at the site of each former lesion. Had the case been first seen at this time, the diagnosis of a syphilitic eruption would have been the first to suggest itself.

A lesion showing this marked induration was excised from the right side of the chest, and hardened in the usual way. Examination of sections from it show that the rete is thickened, the interpapillary processes are elongated in places, while here and there they have fused into a continuous layer. The papillary layer is the seat of a diffuse cellular infiltration, which is especially marked about the vessels, even in the deeper portions of the corium. Under higher power, these cells are found to consist of plasma cells, together with some leucocytes and small round cells. The collagenous and elastic tissues are increased in amount; many mast cells are present. The endothelial lining of the vessels is swollen.

The first thought that suggested itself when the marked infiltration was noted was that the presence of the lesions had acted in the same way that trauma so frequently does on syphilitic soil, that the local irritation had called forth the induration by reason of the latent specific infection. In this regard it was of great interest to observe that the induration was entirely absent from all the lesions situated on the upper part of the chest, for this region usually remains free in syphilitic eruptions, while the induration was especially marked on the extremities. In three or four days, however, it became very evident that the induration was beginning to disappear from the lesions on the trunk, and later

from those on the extremities, leaving merely the deep brownish pigmentation characteristic of the affection. Examination of the blood at this time showed a decrease in the number of eosinophilous cells, while the reaction for indican in the urine was much less marked, though still present. The treatment during this time had consisted of Fowler's solution and calomel.

While it is true that some degree of infiltration is usually present in cases of dermatitis herpetiformis, it appeared to me that the amount of induration present in this case was too great to be accounted for in this way. The sections from one of these lesions were therefore examined with greater interest. The appearance of the sections is not that of a granuloma, nor does it resemble the picture seen in frank syphilitic papular lesions. The plasma cell infiltration about the vessels is of an extent which may be attributed to the prolonged inflammatory process. Sections stained for elastic tissue do not show the cellular infiltration and occlusion of the lymph spaces, which characterize the syphilitic process. I therefore conclude that the greater degree of infiltration is due to the greater severity of the inflammation and not to the presence of a syphilitic element, a conclusion which is further strengthened by the rapid and progressive disappearance of the induration without the exhibition of antisppecific remedies.

As to the etiology of the eruption in this case, two factors may be considered, both acting through the nervous system. First we must consider the possible effect of the mental strain to which the patient had been subjected by his occupation as a motorman; many cases have been reported in which shock, mental strain, emotion, etc., have been the causative factor. On the other hand, there are cases attributed to the influence of some toxin in the system, affecting first the nervous system and afterward the skin. Dr. Engman first called attention to the almost constant presence of indican in the urine of patients affected with dermatitis herpetiformis, and its presence in this case, together with oxalates, could readily be regarded as indication of the presence of a toxemia of sufficient intensity to cause the eruption. The steady and rapid improvement under treatment directed toward intestinal antisepsis seems to give greater weight to the latter factor.

With regard to the diagnosis, several affections were considered. In the first place, erythema multiforme of the bullous type was excluded, for it is not attended with such marked subjective symptoms, is rarely of such long duration, and is not attended with such a profuse development of pustular and bullous lesions. Pemphigus lacks the multiformity of lesions present in this case, as well as the pruritus, the grouping of the lesions, and their appearance on an inflammatory base. Impetigo

herpetiformis, which the eruption most closely resembled, is a more serious disease, is accompanied by much more marked constitutional symptoms, often terminating fatally, occurs during pregnancy or the puerperal state, or with purulent peritonitis, and is rarely attended with pruritus.

The case showed two features which are regarded by Leredde as pathognomonic of this disease, the presence of the marked eosinophilia in the blood and the great number of eosinophiles in the contents of the lesions. Whether the case will fulfil another characteristic of the disease, that is relapsing, further observation of the patient will show.

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PRESIDENTIAL ADDRESS BEFORE THE AMERICAN
DERMATOLOGICAL ASSOCIATION AT THE MEETING
IN CHICAGO, JUNE, 1901.

BY FRANCIS J. SHEPHERD, M.D.,
Montreal.

IT is with considerable diffidence that I, who am not a pure dermatologist, address so eminent a body of specialists as that now before me. I have felt greatly the honor you have done me in electing me President of this Association, and am sure that after the distinguished men who have preceded me, my occupancy of the chair will be a very inglorious one. However, I shall do my best, and trust that the Chicago Meeting will not be one of the least instructive and interesting, for the Local Committee have worked with a will and have accomplished much.

I have thought this a very suitable occasion (the first meeting in the 20th century) on which to look back and estimate the advances made in dermatology during the century which has lately been completed, and also to try and understand how much knowledge the dermatologists possessed a hundred years or more ago regarding the nature and causes of skin diseases.

We might say that the specialty of dermatology has been created during the past fifty years, and that no department of medicine has made greater strides forward than dermatology. Men interested in this specialty were the pioneers who first entered the then unknown sea of bacteriology, for to them is to be credited the honor and glory of first discovering the parasitic origin of many diseases. To Schönlein belongs the credit of first exploring these regions and opening up the whole field of cutaneous mycology, for he in 1839 discovered the parasitic fungus of favus. In 1843 Gruby of Paris discovered the ringworm fungus, and in 1846 Eichstädt discovered that of tinea versicolor.

The enormous influence that the discovery of the microbic origin of disease has had on surgery and medicine is incalculable. Without our present knowledge medicine and surgery would have been at a standstill, and we owe this, in the first place, to the men whose names I have mentioned above, and secondly to the magnificent work of Pasteur, Lister and Koch. As I have before said, perhaps no department

of medicine has made more progress during the century just elapsed than dermatology; from being an indefinite, inexact and confused branch of medicine it has developed into one of the most exact and scientific departments—from being a mere by-path it has become a most important highway—and although there is much yet to learn about the pathology and etiology of diseases of the skin, nevertheless, during the quarter of the century just elapsed, and especially since the discovery of the microbic origin of many diseases, vast strides have been made.

Notwithstanding the fact that most of the pathological processes and changes are taking place before our very eyes, yet there is great diversity of opinion regarding the significance of those changes, and many difficult problems beset us which are as yet unsolved. Many skin diseases are more than mere local manifestations, for, as it has been said, "They have their roots in the interior," *e.g.*, such diseases as syphilis, tuberculosis, the eruptive fevers. There is a close connection between certain skin lesions and diabetes, dyspepsia, rheumatism, etc.; acne may be connected with menstrual disorders, urticaria with the pregnant condition, with pleurisy, and with ingestion of certain obnoxious foods, and purpura with rheumatism. Many rashes are produced by drugs; obstructive jaundice may produce zanthoma, etc., and so it is evident that the pathology of skin disease is intimately connected with general pathology. How important, then, is it that the dermatologist should have a general knowledge of disease. The great principles of medicine and surgery should first be mastered before the study and practice of a specialty is undertaken. In this way a much broader grasp of the subject is obtained, and the specialist is much less likely to run into narrow grooves. Plato recognized this, and said that "the reason why the cure of many diseases is unknown to the physicians of Hellas is because they are ignorant of the whole, which ought to be studied also; for the part can never be well unless the whole is well."

Diseases of the skin are on the borderland between medicine and surgery, and both departments lay claim to certain skin affections. Syphilis, tuberculosis and malignant diseases of the skin have been claimed by the surgeons, and the exanthemata, which occupy so much space in the works on dermatology of the early part of this century, have been almost given up by the dermatologists and annexed by the physicians, who in their text books describe them very fully.

One hundred years ago the classification of skin disease, as described by Plenck in 1783, Willan in 1808, and Bateman in 1813, was based purely on the external appearances of the eruptions, the "physical signs"

as they might be called. The classifications adopted by these men are all much alike, namely, Maculæ, Pustulæ, Vesiculæ, Bullæ, Papulæ, Squammæ, Tuberculæ, etc. Bateman has a class of exanthemata. Parasitic diseases were almost unknown, though Plenck has an order called "Insecta Cutanea." Elephantiasis Arabum, lupus, pellagra, syphilitica, keloid, diseases of the hair and nails, etc., were classed separately.

This classification was adopted by writers in England and on the Continent, either wholly or in a modified form. Then came the classification of Alibert, which divided the diseases of the skin into families, and was illustrated by a magnificent atlas of plates, which tended to popularize his views. His classification was as inaccurate as his pathology was erroneous; Rayer said, "it was deficient in unity and principle."

Hebra, inspired by Rokitansky, was the first to classify diseases of the skin on a pathological basis, and though his scheme has been much modified by recent discoveries and the better methods of histological investigations, most writers, even at the present time, have a classification more or less modelled on Hebra's system. I must not omit to mention the diathetic school of Hardy in Paris, and the anatomical and therapeutical school of Erasmus Wilson in London. In this Association both the clinical and anatomical classifications have been discarded, an alphabetical list of diseases being thought sufficient to fulfil all requirements.

Enough about classifications—a troublous sea on which I do not intend further to sail.

At the beginning of the 19th century impetiginous eczema of children was considered beneficial rather than injurious to the general health, and no remedial measures were advised. Now we know this eruption is due to a specific organism, and is best treated with germicidal remedies, and when cured the patient is much benefited. Cutaneous cancer was considered as the outward manifestation of a diathesis, the effect of which would soon be felt by some of the internal organs. Now we know that cancer is *prima facie* a local disease, and only becomes general when the lymphatics are involved and the disease has lasted some time; that if eradicated early and thoroughly it can be cured in many cases.

It was believed that the appearance of eczema or a lichen during the course of an internal malady was always followed by a favorable solution of the disease; that during an acute disease the cutaneous affections would sometimes disappear, and physicians considered it was most important to administer remedies to bring it back, so that by this

means there might be a favorable termination of the internal disease. The idea that it is not well in all cases to try and cure an eruption, say of the scalp, for fear of entailing something worse upon the patient, is not yet extinct among intelligent people.

In the beginning of the last century in all works on Dermatology, lepra and psoriasis had separate chapters for their description, and were looked upon as distinct diseases. From the description given by Bateman in 1819, one would now conclude that they were one and the same disease, the only essential difference being that the patches in lepra are circular and discrete, while in psoriasis they are irregular and diffuse, and in 1842 S. Plumbe, although he devotes 12 pages to lepra and 21 to psoriasis, says that "he is fully convinced that for all purposes of useful discussion lepra and psoriasis might have been included under one head." He says also that "the information we have at present acquired in the modern study of cutaneous disease does not enable us to find a better reason for their separation than that afforded by the circumstance of its having been made by the ancients."

Arsenic and pitch were given with good effect then, and sulphur baths were strongly advised, but bleeding and purging were condemned by Bateman. White precipitate ointment is advised in some cases, also unguentum picis and dilute citrine ointment. Bateman found the decoction of the leaves and twigs of the *Solanum dulcamara* most beneficial.

As to the etiology of the disease, as much was known a hundred years ago as now; heredity was held to be a factor, and certain foods and drinks were said to produce it, cream, vinegar, oatmeal and alcohol, and in some cases violent exercise of the body are given as causes. Willan says cold and wet will bring it on, but the conclusion of most of these early writers is that the causes of this disease (lepra) are involved in much obscurity. No less than three varieties of lepra are described and eleven of psoriasis.

The history of scabies is a most interesting one. Four different forms were recognized, viz., *S. Papuliformis*, *S. Lymphatica*, *S. Purulenta* and *S. Cachectica*. The clinical features of each one of these were well known, and also the fact that scabies was contagious. Although the "itch mite" had been discovered as early as the 12th century, according to Hebra, and is mentioned by Ste. Hildegard in a book entitled "*Physika*," yet at the beginning of the 19th century it was unknown to most physicians; some recognized its existence, but it was regarded as a kind of louse and merely present accidentally in scabies. In the 17th century old women went about extracting these insects with the point of a needle from their burrows in the skin, and

Borromio and Cestoni regarded the acarus as the cause of the disease, and said it could be communicated by contact and by shirts, pocket-handkerchiefs, gloves or other articles worn by the persons affected with the disease. The acarus would appear to have been lost sight of for many years, and even in the beginning of last century its existence was doubted by medical men in France, though veterinary surgeons were familiar with it as a scab in sheep. But authors such as Bateman, Biett, and Casenave, still ignored it; some admitted the existence of the insect, but said it was a rare and casual circumstance, the approximate cause of the disease being the fluid secreted by the pustules.

Casenave (1829) said: "the proximate cause is wholly unknown," and thought that pedicular diseases have been mistaken for it by those who believe in the itch mite. M. Gales had in 1812 at the Hôpital St. Louis, demonstrated many times the presence of the insect, and described it. Still Casenave says in 1828, "that until M. Gales . . . would again visit the Hôpital St. Louis and reiterate his experiments, he should think himself justified in believing that the acarus does not exist."

In 1834 a Corsican named Renucci taught the physicians of Paris how to find the acarus. But old beliefs and superstitions die hard, and even after Eichstädt of Griefswald in 1846 described the burrow and position of the eggs in it, and the larval stage of the animal, and Langueutin and Bourguignon described and gave drawings of both the male and female itch mite, and proved by experiment the contagiousness of scabies to be due to the transference of this insect, yet the profession was not convinced. In 1852, nay, even as late as 1864, some authors (Casenave, Devergie and Gilbert), admitted that scabies could be communicated by the insect, but held that the secretion from the eruption itself was the most frequent cause of contagion. Devergie said in 1863, that "Scabies may be a spontaneous disease;" Hebra in 1846 wrote a paper on scabies, in which he credited the acarus with being the only means of contagion in this disease.

Ringworm of the Scalp was classed under the Herpes group of eruptions, with herpes zoster, etc., and was called herpes capitis, or tonsurans; that of the body, herpes circinatus. Most English dermatologists up to the middle of the last century held that ringworm was not contagious, because no other form of herpes was, and it was not inoculable. Casenave held strongly that H. circinatus was contagious, but did not know it was caused by a vegetable parasite. Andrew Paul, who published in 1838 an essay on ringworm, with plates, quaintly says in his preface that "he has added some plates containing representa-

tions from Nature that those who have not leisure to read the book through may, however, by looking over them, have some knowledge of what it contains." Mr. Paul's work gives one an idea of the extent of the information on the subject which existed at that time. The nomenclature is most confused, for under Ringworm are figured herpes zoster, herpes iris, herpes circinatus or vesicular ringworm, herpes labialis; porrigo favosa (well illustrated) porrigo decalvans (alopecia areata), porrigo aversa (favus), porrigo annulata (probably lupus erythematosus) and another in the head, probably true ringworm. And again impetigo figurata, probably impetigo contagiosa. There is also a good representation of a pediculus, which is said to attack the heads of children affected with ringworm. He holds ringworm is highly contagious, but is influenced by unhealthy secretion of milk, impure air, teething and surfeit. He looks on the disease as at first local, but afterwards becoming constitutional, as evidenced by the enlargement of the glands of the neck. Pediculi capitis, favus, herpes, scabies and seborrhea are all confused with ringworm. The itch insect and pediculi are spoken of indifferently as one and the same, and he describes how the galley slaves at Leghorn are very dextrous with pin and needle in extracting them from the skin.

The book gives one a very good idea of the confusion which then existed as to the nature of the various diseases which attack the scalp, and the great ignorance which there was before the discovery of the ringworm fungus by Gruby in 1843.

Tinea Sycosis Barbae had been described by Celsus and later by Galen, but Bateman is the first to give a good description of sycosis. He treats it with mercurial ointments, but at the same time prescribes alterative doses of mercury and antimony followed by cinchona or serpentaria, "especially where there appears any affection of the digestive organs, which not infrequently occurs with the eruption." Most of the writers of the early part of last century confuse ringworm with sycosis, and many later on describe this disease as caused by a vegetable parasite. Even as recently as the time of the great Hebra sycosis was supposed to arise from a morbid principle in the blood. Some said it was apt to occur in cooks, founders, stokers and others subject to long continued heat; Erasmus Wilson supposed it due to night air, and many to blunt razors (a very probable contributory cause). Hebra said it was due to letting the beard grow; he laughed at the idea of the disease being caused by dyscrasia.

Now we know that the disease is of microbic origin and contagious, and is often conveyed by the shaving brushes and towels of barbers.

According to Unna, there are two forms of the disease, one of cocco-genic, the other of bacillogenic origin.

Nearly all the works on dermatology in the early part of the century have a chapter on *Vaccinia* or cowpox, and give accurate directions how to procure the vaccine virus, and the appearance of the vaccine "pock" in its various stages is described minutely. *Vaccinia* is classed under the pustular eruptions. A number of spurious vaccine pocks are described. Casenave (1829) mentions the fact that if smallpox sometimes co-exists with vaccinia, or that vaccinia does not always protect, the same may be said of inoculation, yet both will modify the attack of smallpox if they do not protect. He concludes by saying, "Vaccination, without inducing any danger in itself, is still a preservative means of the highest grade of utility, and it is perhaps the most glorious victory of the art of medicine."

Would that all thought so now! In those days people were familiar with the terrible ravages of smallpox, and knew that few reached adult life without being pitted, so they welcomed with joy any means which held out a promise of relief from the dread scourge. Nowadays, anti-vaccination societies abound, and it has become as much of a cult as Christian Science, Homeopathy, and such like delusions. Alas for the progress of the human race and its improvement by education! Education has not destroyed superstition or the belief in fads, for it is among the so-called educated classes that quackery flourishes and has its chief support.

In this brief sketch I have given you a sufficiently long account of the state of knowledge of some of the diseases of the skin in the beginning of the 19th century, and have told you how confused most of this knowledge was. The discovery of the parasitic origin of many affections aided much in clearing away the clouds and mists which envelop diseases of the scalp especially, and prepared the way for the Vienna school of pathology, which was led by Hebra, who was inspired by Rokitansky. Hebra, by his scientific knowledge and his common-sense way of looking at diseases of the skin, has done more than any man to drive away the superstitions and fallacies which enshrouded dermatologists at the beginning of the last century, and in this he was assisted by Hardy of Paris and Erasmus Wilson of London.

During the last quarter of the 19th century the histological and bacteriological methods of investigation have thrown much light on diseases of the skin, and have helped to place the study of dermatology on a scientific basis. Many new affections have been described, and many old ones have had to be re-classified. The parasitic diseases are becoming thoroughly known, and with the new means at our disposal

for investigation, ringworm, favus, tinea versicolor and scabies are now fully understood—the first named, owing to the work of Sabouraud and others; is now known not to be due to one and the same fungus, but to several different kinds.

Eczema seborrheicum has been given to us by Unna, and Duhring has contributed dermatitis herpetiformis. Then we have Raynaud's disease, myxedema (Ord), angioneurotic edema, pityriasis rubra pilaris, parakeratosis variegata, porokeratosis, blastomycosis, and many others which I have not now time to even mention. Lupus, which formerly was classed under the new growths, is now placed under tuberculosis, though there is yet some difference of opinion as to the proper place of the erythematous variety.

Many new remedies have been introduced, such as chrysarobin for psoriasis, thyroid extract for myxedema, and many new germicides, such as ichthyol, naphthol salicylic acid, resorcin, etc.; their name is legion. The X-ray and sunlight have been pressed into the therapeutic service, and animal extracts are as popular now as in the middle ages.

The advances within the last quarter of the 19th century, both in medicine and surgery, as well as in the special departments, have been marvelous. Could one of our confrères of the first quarter of the century come to life, he would imagine himself to be under an enchantment, and yet the present generation look upon these wonders unmoved, and take them as a matter of course. It is possible that the present century will see much greater marvels, than the past, and that diseases that are now raging among us may be altogether abolished, for most are preventible.

It has been said that nearly all lethal diseases might be classed under three heads, the *Tuberculous*, the *Carcinomatous*, and those due to *Septic germs*. It is very possible that these diseases may be abolished by some antitoxin, and that syphilis, leprosy and diseases of that class, may be so controlled as in time to be abolished altogether, and then the occupation of the doctor will be gone, for people would only die from old age or from accident; a few surgeons would be required to treat the accidents which would continue to happen.

Such is the dream of the more Utopian members of our profession, and I might say with Hamlet, "It is a consummation devoutly to be wished."

Society Transactions.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

Held at the Hotel Chamberlin, Old Point Comfort, Va., April 30, May 1 and 2, 1901.

The President, SAMUEL ALEXANDER, M.D., in the Chair.

[CONCLUDED FROM JULY ISSUE.]

DR. ARTHUR T. CABOT, of Boston.—As to the question of solution of stones, I have experimented upon it outside the body, and find that stones composed of urates or uric acid will dissolve in water. The present explanation of the spontaneous fracture of stones is that when the specific gravity of the urine is greatly changed by efficient dilution, it acts differently on different layers of the stone, and brings about in this way solutions of continuity which lead to fracture. These facts make it wise for us to avoid too much skepticism in the matter of solution of calculi.

DR. JOHN P. BRYSON, of St. Louis.—Dr. Tuttle did not say how much of the ureter went across the room with the kidney.

DR. TUTTLE, of New York.—I saw the kidney picked up by the assistant and the ureter seemed to be broken off at the hilum of the kidney, where the gauze was tied about it.

DR. SAMUEL ALEXANDER, of New York.—In regard to the unreliability of the X-ray pictures I have in mind an unfortunate experience which occurred in a man, thirty years of age, in whom there was undoubtedly a stone of the right kidney, the symptoms having lasted for a number of years. Assisted by Dr. Brown in making a cystoscope examination of the case and catheterizing the ureters we felt absolutely certain, from the findings, although practically there was no fever, that the kidney was affected. Dr. Alexander B. Johnson took a skiagraph and there was shown a very large, but faint, shadow upon the plate, and a stone appeared to be far up, and seemed that it might be within range. Operation was performed and there was found the largest stone, two-and-a-half inches in length, with a long prong that went down in the ureter. It was impossible to get the kidney free or to get it up in the wound, so I did the best I could. The patient died twenty-four hours after the operation from acute sepsis, which I believe was due to infection of the wound from the very virulent character of the fluid contained in the pelvis and kidney substance itself. The shadow obtained was such an imperfect one that, until after an opening was made into the kidney, the diagnosis remained in doubt.

DR. THORNDIKE (closing the discussion).—I wish to add one word in regard to the method of exploration. I agree that it cannot be done in all cases. I believe that it would be inexpedient to use the force necessary in many cases. I am not prepared to say that, because we do not find stones in the kidney without splitting it, that we should always split the kidney and look for some, but if stone should not be found in the pelvis of the kidney I do not believe that we should give up

further examination. I believe in the practice of splitting the kidney when it can be easily brought out on the loin.

Rupture of the Urethra: A Report of Three Cases.—DR. JAMES R. HAYDEN, of New York, reported these cases. *In Case 1* the bulb of the corpus spongiosum was crushed into a bleeding and oozing mass of tissue, the bulbous urethra having ruptured longitudinally in many places on its floor. Following an external urethrotomy, the clots were turned out, the bleeding points were ligated, full sized sound was passed, and the bladder irrigated and drained by a large perineal tube which was removed permanently on the fifth day. *Case 2* there was a rupture of the urethra, with extravasation of urine. Soft rubber and silk catheters passed as far as the bulbous urethra and then left the canal to enter the perineal tissue. Forty-two ounces of bloody urine and many clots were evacuated, and the bladder irrigated with saline solution, several ounces of which were left in. An external urethrotomy was then done, with a silver catheter as a guide. The perineal tissues were infiltrated with blood, urine and clots, with free oozing. After stopping the bleeding and drying the parts, a longitudinal rupture could be seen in the floor of the bulb of the urethra. A full sized sound was passed into the bladder, which was irrigated and drained by a large perineal tube as in external urethrotomy. The perineal wound was left open and packed lightly with gauze. On the fourth day the perineal tube was removed permanently. *In Case 3* there was a rupture of the urethra without extravasation. Boric acid and hyoscyamus were given internally. He was catheterized at regular intervals, and the urethra carefully irrigated with a warm alum solution. The perineum was covered with cold bichloride dressing. On the fifth day the patient was up and about, and was discharged from the hospital cured on the tenth day.

In conclusion, he stated that the treatment of rupture of the urethra was either operative or non-operative, depending upon the nature and extent of the injury. If there is a marked hemorrhage from the meatus with complete retention of urine, or difficult and painful urination and bloody urine, associated with difficulty or inability to enter the bladder with instruments, and also if there is a fluctuating perineal tumor with perhaps a rise of temperature, then immediate perineal section and bladder drainage are indicated. If on the other hand hemorrhage is slight, urination free, but somewhat painful, the urine tinged with blood, or containing light bloody flakes, and catheterization normal, except perhaps causing some pain at a local spot, which feels slightly roughened or thickened, and little or no perineal tumefaction, then catheterization, irrigation and urinary antiseptics should be resorted to, with rest in bed, and the first sign of urinary extravasation looked for, in which event external urethrotomy with vesical drainage should be resorted to. Partial suture of the urethra must always be employed in cases of complete rupture, in which the divided ends of the canal are widely separated, otherwise it is not essential.

DISCUSSION.

DR. H. M. CHRISTIAN, of Philadelphia.—The treatment of rupture of the urethra depends upon what form of injury is present in a given case. As has been pointed out by Dr. Hayden, where there is a rupture of the floor of the urethra, involving either the mucous membrane alone or the submucous coat of the urethra, the roof being intact, under these conditions I usually have been able to bring about a good result by permanent catheterization for about ten days, provided, of

course, that the catheter can be made to enter the bladder. When this cannot be accomplished, and in cases where there is a tumor forming in the perineum with beginning extravasation of urine, the treatment should be on the lines laid down by Dr. Hayden, viz.—external urethrotomy and perineal drainage. I gather from the paper that Dr. Hayden is not an advocate in such cases of complete suture of the divided ends of the urethra. From my own experience I should be decidedly inclined to agree with him in this matter, although I know that there are quite a number of members of the Association that feel strongly the other way.

DR. ARTHUR T. CABOT, of Boston.—In connection with Dr. Hayden's paper, I should like to narrate a recent and interesting case.

Patient was brought into the Massachusetts General Hospital on the 25th of January, this year, with a very slight rupture of the urethra.

The surgeon who saw the case found that a catheter slipped readily into the bladder and he thus established drainage and the case rapidly recovered. The slight tumefaction of the perineum quickly disappeared, and he left the hospital passing water easily at the end of the week. Two months later, he returned and entered my service with a tight stricture at the site of the injury. This would barely admit a filiform bougie. Cutting down upon the stricture, it was found to be a dense fibrous narrowing, almost linear in character. It was cut out and the healthy ends of the urethra brought together by suture.

In 1896, I published a paper upon this subject in which I reported five cases treated by immediate operation with suture of the divided ends of the urethra. This suturing was done in each case with catgut. Three of these patients were found years after the operation and two of these three had no sign of any stricture, although nothing had been done in the meantime to prevent its formation. In the third case, there was a slight narrowing perceptible by a bulb, No. 22 French, but sounds up to No. 28 French easily passed through. It seemed as if in this case there was a slight jog in the urethra at that point, or possibly a very elastic cicatrix.

My assistant, Dr. Scudder, sent me a report of another case in which he had done the same operation and in which a year later, although the patient had had no sounds passed in the meantime, a 28-sound passed with perfect ease through the canal.

I speak of these cases because I differ entirely with Dr. Hayden as to the proper treatment and think that in cases of rupture the urethra should be cut down upon and the ruptured portion sutured. It is not a difficult operation when done early, even if the ends are widely separated.

The bleeding comes from the artery of the bulb and in that way acts as a guide to the ruptured end of the urethra. Having found the anterior end by passing an instrument down through the urethra, the deep bleeding point is seized and pulled forward, and the posterior opening of the urethra should be found close to it. When the sutures are in place, the bleeding is entirely stopped. If the opening of the skin is left patent any danger of extravasation is done away with. I have treated these cases after operation by tying in a catheter which is left in for a week or ten days.

DR. GEORGE CHISMORE, of San Francisco.—I had an opportunity a short time ago to examine a case of a gentleman who fell across the wheel of a buggy fifteen years ago, injuring the perineum. At the time of the accident there was a complete rupture of the deep urethra, and, when I saw him forty-eight hours after the accident, there was complete retention with extravasation and I was compelled to

do a perineal section without a guide. The local injury was very severe, but he made a good recovery, although no attempt was made to ligature the separated portions of the urethra. The bruising was very extensive and the tissues were much distorted by the extravasation. I have watched this case during all these fifteen years. His subsequent behavior has been quite curious. At times there is increased frequency in urination. I found for two or three years a full sized instrument pass in all right. There is a nodular condition and a slight tortuosity of the canal. After five years he came to me, and I could not get into the bladder with a sound. After repeated efforts I succeeded in getting in a filiform. I followed this with an American No. 8 tunnel catheter and found a great deal of difficulty in introducing it. In three days he again came to me and I commenced with a No. 8 F.; then I rapidly and easily dilated the stricture to 26 F. It is a question in my mind whether ligation done in bruised parts is absolutely necessary.

DR. JOHN P. BRYSON, of St. Louis.—My experience thoroughly accords with the views expressed by Dr. Cabot of the necessity of restoring the mucous membrane of the urethra in cases of rupture. In order to illustrate its importance I would like to mention the histories of three cases.

Some years ago I saw a patient who had fallen across a piece of timber when he had a distended bladder. The surgeon who was first called opened the bladder from above for retro-catheterization. But the wound did not heal. Four weeks after the injury I opened the perineum and found the urethra had been severed transversely and the anterior part invaginated. The ends were carefully sutured. I have recently seen this man and the absence of any stenosis is demonstrated by the fact that a 30 sound passes easily. Even the endoscope can find no evidences of the point of suture. The parts were thoroughly brought together and a small incision made in the floor of the urethra in its posterior part for drainage.

The late Dr. Henry H. Mudd showed me a case similar to this. I saw the man one year ago and there was no sign of recontraction. In a number of other cases where the precaution was not taken to suture the divided ends there was a decidedly unfavorable result. I have in mind the case of a man in whom a large sized sound could be introduced into the bladder, a No. 28 French, yet the urinary stream was small. The symptoms were those of obstruction in the posterior urethra. An eminent surgeon had pronounced the case to be one of soft stricture. As I had never seen a case of soft stricture I was interested. The history given by the patient was that owing to the distress caused by it, he had abstained from sexual intercourse with his wife for more than a year. There was complete aspermatism. An occasional pollution awakened him with great pain, which lasted for several hours. It turned out that the patient had once submitted to electrical treatment at the hands of an enthusiast. When I opened the urethra I found that there arose from the upper part under the pubic arch a valve-like flap which, passing round to the left side in a spiral form, ended on the floor near the veru montanum. Its free border was directed backwards. Thus, an instrument could be easily introduced, but the urinary or seminal stream lifted up a valve which almost closed the canal to the passage of anything coming from behind. Removal of the valve resulted in complete recovery. It seemed probable that the electrolytic sound had disintegrated the mucous membrane and set going the development of the valve, acting, in a word, like a traumatism.

DR. L. BOLTON BANGS.—My conviction was very strong a few years ago when I wrote a paper urging the necessity of perineal incision and drainage, even in moderate traumatisms to the perineum—in children as well as adults. I should

like to ask what has been the experience of others, in cases in whom you were obliged to excise a portion of the urethra, as to the subsequent power of the individual to have erections and penetration.

DR. SAMUEL ALEXANDER, of New York.—While I am always sorry to have men so absolutely in disaccord with their experiences, yet I will say, in the first place, that I have had three cases during the past year, that were admitted to the wards of the hospital and who were treated by surgeons that I know very well, by suturing, and all three had retractions. I have had the same experience in cases of complete rupture of the urethra. On the other hand, cases that were treated without suturing made good recoveries and have been under observation for several years without even moderate retraction. After perineal section and drainage in cases of complete division of the urethra I have seen a tendency to retraction. My own custom is, in cases of traumatism with much hemorrhage, to treat by a wide division of the urethra and perineal drainage. Therefore, I am still in accord with the statements made by Dr. Hayden.

DR. HAYDEN (closing the discussion).—In regard to suturing the urethra I can only reiterate what I have already stated in my paper. One case I have watched for a year, and there has been no resulting stricture. The other two cases reported I have not been able to trace, and can therefore make no positive statement in regard to subsequent stricture formation.

Inversion of the Tunica Vaginalis for Hydrocele.—DR. ROBERT H. GREENE, of New York. (See page 336, Vol. XIX.)

DR. ORVILLE HORWITZ, of Philadelphia.—I have performed the operation suggested by Doyen for the radical cure of hydrocele in ten cases. This process is still on trial. My experience is too recent for me to determine whether a recurrence of the ailment may or may not take place in any of the cases that have been under my observation. From the fact that the inverted tunica vaginalis must become attached to the surrounding structures, and the cavity formed by this sac is thus permanently obliterated, it would look as if a recurrence of this condition would be an impossibility. The removal of the entire tunica vaginalis, except a small strip covering the cord, in ninety-four cases, has convinced me that no fear need be entertained as to the result of injury to the testicle by being deprived of its natural covering. In large hydroceles of long standing, with greatly thickened sacs, the operation would not be feasible, and the partial resection of the tunica would have to be resorted to.

In all the cases operated upon by inversion of the tunica vaginalis a painless enlargement of the testicle resulted, which was not attended by any inflammatory symptoms, and generally subsided in about ten days.

I am inclined to believe that this operation will prove to be the most satisfactory method of treatment which has as yet been suggested for the cure of an ordinary chronic hydrocele.

A Case of Cystitis due to an Unusual Bacillus or Abnormally Behaved Gonococci.—DR. JAMES P. TUTTLE, of New York.

W. C., aged fifty, with a history of protracted urethritis, was taken with symptoms of severe cystitis, and discharged large quantities of pus and mucus in the urine, in May, 1900.

He was of a thin, cadaveric appearance, and had been under my observation for some years, during which time I had operated upon him for fistula in ano, and

treated him for ulceration of the rectum. During all my experience with him I had constantly suspected tuberculosis, but had never been able to prove its existence. The symptoms which I perceived during the present attack, accompanied with great weakness and aching in the back and loins, were indicative of tuberculosis of the kidneys.

Dr. Alexander was called in consultation, and after careful and thorough examination, he decided that the physical and general symptoms pointed to this condition, but would not give a positive opinion without personally analyzing the secretions. Owing to a combination of circumstances, which he could not control, this was impossible.

During the month of June I had this urine submitted to three pathologists for examination, the reports being practically the same in all cases; that there was no evidence of Bright's disease, and no tubercle bacilli could be determined.

Culture and inoculation methods were instituted to prove the nature of the disease. Guinea pigs and rabbits were inoculated, and cultures were made in various media to establish the nature of the disease. No results whatever were obtained from the inoculation experiments. In the culture experiments, however, a mixed form of coccus, similar to gonococcus, but resembling more the diplococcus found in cerebro-spinal meningitis, was found.

The behavior of this coccus was entirely different from that of gonococcus, in that it was rapidly destroyed in all acid media. A normally acid urine immediately checked or destroyed its growth, whereas in alkali it thrived wonderfully. The report made to me at that time was that the coccus was probably a coincidence, or if not such an undescribed pathological infection of the urinary organs, as no such germ had been reported. The fact, however, that these cocci when injected into animals produced none of the symptoms of cerebro-spinal meningitis was an argument against their being of this nature. The segregation of urine exhibited no particular variation between the two kidneys. The peculiar behavior of the cocci had been maintained, and after prolonged examination, Dr. Parkes gave me the opinion that the pathological condition consisted in an unusual type, or a very chronic form of gonococci, which thrived in alkaline media, and rapidly expired in acid ones.

The case finally resolved itself into a very obscure form of syphilis in my own opinion, and of which there was finally elicited an indistinct history of a possible infection over thirty years ago, without any skin or constitutional manifestation at that time or since. At any rate, under the influence of mercury, the urinary symptoms gradually disappeared, and although the patient suffered for some time from a contraction of the urethra and the neck of the bladder, due to inflammation and the prolonged use of the permanent catheter, these have gradually grown better, and now the patient only urinates once in five or six hours during the day-time.

The peculiar feature in the case is, that notwithstanding the fact that he sleeps at night, it is necessary for him to use the urinal at least every two hours during the night. This is the case even when he is under the influence of narcotics, which he has found necessary to use on account of an obstinate insomnia.

A Case of Cancer of the Rectum, Involving the Urethra Prostate and Possibly the Wall of the Bladder.—DR. J. P. TUTTLE.

The second case which I have to report is one of interest both to the rectal

and genito-urinary surgeon. It is a case of cancer of the rectum, involving the urethra, the prostate and possibly the wall of the bladder.

R. G., thirty-five years of age, entered the hospital on Jan. 9, 1900. He gave a history of rectal trouble lasting for twelve months. Upon the margin of the anus there protruded an epitheliomatous mass, which extended as far up as the finger could reach. The patient was in a most emaciated condition, was taking thirty-six grains of morphine a day to relieve the pain (in fact, this patient was so weak that it was not thought that he would live to reach the hospital from the train, by which he had been brought from Kentucky to New York).

Jan. 16, 1900. Left inguinal colotomy, Maydl-Reclus method, sphincter stretched, and the protruding epithelial mass clamped off. The patient obtained great relief, his appetite returned, pulse was reduced from one hundred and thirty to eighty per minute. It was evident from the examination while under ether that the tumor involved the prostate, and possibly the bladder.

I advised no further operation in his case, as I considered it beyond the hope of radical cure. The patient, however, insisted on taking the chances, as he was not willing to go home and be a burden to his family any longer. Consequently on Feb. 7, 1900, I removed—after my own technique—six inches of the rectum, one inch and a quarter of the urethra, the entire prostate, and nearly one square inch from the posterior wall of the bladder, being careful to avoid the ureteral openings on each side of this space, which did not seem to be involved.

The patient became very weak during the operation, requiring saline infusion, and the opening into the bladder was only partially closed, the peritoneal cavity was packed off with iodoform gauze, and the patient returned to the ward. The time of the operation was forty-five minutes. On the following day the patient recuperated rapidly, suffered little pain, and had an uneventful recovery so far as the rectal operation was concerned.

On Feb 21 I attempted to suture up the wound in the bladder, for the third time etherizing the patient, and succeeded in doing this and in partially restoring the neck of the bladder. On March 18 he left the hospital with a permanent inguinal anus, able to hold two ounces of urine in his bladder, and to all intents and purposes free from his carcinomatous disease—certainly free from the use of morphine, in which he had indulged most freely for the past six months.

The interesting points in this case are the extensive involvement by the disease, the relinquishing of the morphine habit after it had been so firmly established, the relief given by colotomy, and the marvelous recuperative power of the patient. He was one of those men who had determined to live, and it seemed impossible to kill him.

The lower end of the rectum, where it was cut off, was not closed or sutured in any way, but simply packed with gauze and allowed to take care of itself. It atrophied, and at the time he left the hospital there was only a small fistulous tract leading up from the site of the anus to this point, which discharged a very small quantity of glairy mucus with a little pus.

No effort was made to preserve the sphincter muscles, and the posterior wound was closed completely down to within one inch of the previous anal commissure.

I heard from the patient three weeks since, and learned that he is now attending to his duties as bookkeeper at his home; and, barring the incontinence of urine and more or less annoyance from the artificial anus, seems perfectly well.

SECOND DAY, MAY 2ND.

Clinical Observations in Syphilis.—DR. JOHN A. FORDYCE. Will be published.

A Case of Prostatectomy.—DR. JAMES BELL, of Montreal. See Vol. XIX., page 262.

What I Have Learned from One Hundred and Sixty-One Operations for the Relief of Senile Hypertrophy of the Prostate Gland.—DR. ORVILLE HORWITZ, of Philadelphia, read this paper. The various operations he performed was classified as follows:

VASECTOMY.—Twenty-eight cases with no deaths. The results obtained lead him to make the following conclusions:

1. As a curative measure vasectomy is of little value, and is not to be recommended.
2. The operation appears to be most effective when performed on patients between fifty and sixty years of age, in whom the prostatic enlargement is of the soft glandular variety. The genital organs of patients of this age are usually in a healthy condition, and the individuals usually object to any operation that is liable to interfere with their sexual functions.
3. The operation is serviceable in those cases where the physical condition of the patient renders him unfit to undergo surgical procedure, who will not submit to a more serious proceeding, who has to depend upon the frequent use of the catheter, or who suffers from periodic attacks of orchitis.
4. Sexual vigor is not diminished by the division of the vasa deferentia.
5. Atrophy of the testicle does not result from the operation.

CASTRATION.—Forty-four cases, two deaths. The following deductions he thought were warrantable:

1. In selected cases, bilateral castration will always hold a place in genito-urinary surgery as a means of removing the obstruction caused by prostatic hypertrophy.
2. The operation is indicated in men of advanced years, whose sexual powers are lost, the overgrowth of the prostate being glandular in character, or who have reached that period of life where the passage of a catheter becomes difficult and retention of urine not uncommon, or if advanced disease of the bladder and kidneys does not preclude a serious operation.
3. The primary effect of castration on the glandular prostatic hypertrophy is first to relieve congestion, and secondarily to cause atrophy.
4. When the prostatic enlargement is fibrous in character no benefit is derived from the operation, and the employment under these circumstances is not to be recommended.
5. Orchidectomy in very old subjects with extensive disease of the bladder and kidney is attended by a large mortality, and is a very serious operation.

SUPRAPUBIC CYSTOTOMY.—The indications for a suprapubic cystotomy in prostatic hypertrophy may be summarized as follows:

1. When retention exists and it is found impossible to evacuate the urine by the usual methods that are employed for the purpose.
2. As a temporary palliative means in those patients who have reached the "break-down period of catheter life," whose resisting powers have disappeared

and who suffer from secondary involvement of the bladder and kidneys, and whose condition is such to preclude the resorting to any more serious operation, but require immediate relief from the symptoms caused by the obstructing prostate gland.

3. In feeble old men, in whom the enlargement of the prostatic growth is fibrous in character, which renders the introduction of a catheter difficult, and the passage of the Bottini cautery knife impossible, in whom there is long standing chronic cystitis, with probably diseased kidneys, which precludes a prostatectomy, suprapubic cystotomy may be selected as the least dangerous and most satisfactory operation which can be employed.

PROSTATECTOMY.—His conclusions he summarized as follows:

1. With the exception of ligation of the internal iliac arteries, prostatectomy is the most dangerous operation that has been recommended for the relief of prostatic obstruction due to hypertrophy.

2. Suprapubic prostatectomy is the safest method, especially if combined with perineal drainage.

3. The best period to select to perform this operation is early, before the break-down of catheter life and serious complications have supervened.

4. Either an atonied or contracted bladder of long standing, associated with chronic cystitis, attended by the formation of sacs, or pouches, are contra-indications for the operation.

5. A partial prostatectomy is indicated in those cases where a valve-like lobe exists, which interferes with urination, or where there is partial hypertrophy of one of the lobes.

6. A complete prostatectomy is indicated where a hypertrophy of the three lobes has taken place, especially if the condition is associated with tumor formation, projecting well back into the bladder, or has given rise to a stenosis of the prostatic urethra.

7. Perineal prostatectomy is best suited in those cases where the enlargement of the lateral lobes has a tendency to grow towards the rectum or obstruct the urethra.

8. When performing a perineal prostatectomy the semi-circular incisions advocated by Pyle, or the transverse cut of Nicoll, is the most satisfactory.

9. The removal of a portion of a small hard fibrous prostate gland by means of the perineal route is a very difficult operation. There is danger of not only extirpating the entire gland, but the prostatic urethra as well.

BOTTINI OPERATION.—From the results obtained by the experience that he recorded in his paper he felt warranted in forming the conclusions as follows:

1. Success following the Bottini operation depends on having perfect instruments, a good battery, the necessary skill, and the employment of a perfect technique.

2. In suitable cases the Bottini operation is the safest and best for the radical cure thus far devised for the relief of prostatic hypertrophy.

3. It is often very efficacious in advanced cases of obstruction as a palliative measure, rendering catheterism easy and painless, relieving spasm, lessening the tendency to constipation, and improving the general health.

4. It is of special service in the beginning of obstructive symptoms due to hypertrophy of the prostate gland, and may be regarded as a means of preventing catheter life.

5. It is indicated in all forms of hypertrophy except where there is a valvu-

lar formation, or where there is an enormous growth of the three lobes, associated with tumor formation giving rise to a pouch, both above and below the prostate gland.

6. Where the bladder is hopelessly damaged, together with a general atheromatous condition of the blood vessels, associated with polyuria, results are negative.

7. Pyelitis is not a contra-indication as a resort to operation.

8. The character of the prostatic growth has no bearing on the results of the operation.

Some of the Conditions Following the Bottini Operation for Prostatic Obstruction.—DR. L. BOLTON BANGS, of New York, read a paper with this title. He brought out the following points which he considered of importance: (1) The muscular impediment which almost immediately followed the removal of the instrument. In order to overcome this difficulty he had had made a series of metal catheters patterned after the Trendelenberg searcher, with solid tips in order that the instrument may be sterilized. (2) The process of repair, as witnessed with the cystoscope, begins and proceeds as under ordinary aseptic conditions. A specimen removed from one of his patients was then shown which demonstrated that the grooves made had immediately relieved the mechanical obstruction. It was his opinion that the spontaneous urination which followed the operation was due, not only to the formation of the grooves, but to the contraction of the cicatrices and to atrophy of the gland tissue. (3) The decided necessity for after treatment. Patients usually come for treatment with chronic catarrh of the prostate, seminal vesicles, bladder and urethra, and the after treatment in these cases should be continued until all the foreign material had disappeared. Out of forty-two cases he had three deaths. His explanation for these deaths was "bad judgment in operating." A parenchymatous prostatic abscess existed in one case, and this could not have been diagnosed. In another instance death occurred in an old man who insisted upon the operation.

Contracture of the Neck of the Bladder.—DR. C. H. CHETWOOD, of New York, read a paper with this title. He stated that in treating of the subject of contraction of the neck of the bladder the literature, which is limited and obscure, will encroach upon the prolific subject of prostatic hypertrophy, first, because the two diseases have much in common and are more or less confounded; second, because one of the purposes of the writer is to introduce as a substitute for the Bottini operation a more surgical procedure, claims of superiority of which are based upon special advantages, as greater precision, lower mortality, fewer complications, and the promise of better results.

Definition.—What is meant in the paper by contraction of the neck of the bladder is a fibroid stenosis of the vesical sphincter, or fibrous infiltration of the glandular and muscular tissues encircling the bladder neck, simulating symptomatically stone in the bladder and resembling senile prostatic hypertrophy by the mechanical hindrance it produces to the urinary outlet. Many of the cases of prostatic hypertrophy reported are simply cases of contracture, notably some of those reported by Bottini.

Causes.—The cause of this condition is found in long-standing chronic inflammation centering in the region of the trigone (behind) or in prostatic sinus (in front). It is commonly, but not necessarily, of gonorrheal origin. Prostatic ab-

cess, stone in the bladder, traumatism, or any of the conditions involving permanent suppurations in the neck of the bladder, or the prostatic urethra may be behind these, and it may also co-exist with prostatic hypertrophy, when it becomes one of the elements of obstruction formed by a morbid growth.

Symptoms.—The symptoms of contracture of the neck of the bladder are analogous to vesical calculus. The most prominent symptom is the urgency and frequency of urination, the calls for this act varying from one-half to two and a half hours, day and night. The desire is generally precipitous and, if not responded to, is promptly productive of pain in the bladder region or involuntary urination. The difficulty in starting a flow in some cases causes a complete retention. In long-standing cases the force and stream is distinctly less than normal. The residual urine exists in variable quantities. Examination per rectum discovers nothing characteristic. Examination by way of the urethra, with a short-beaked sound, meets an obstruction beyond the prostatic sinus, and, after entering the bladder, the same obstruction will be recognized by turning the beak towards the *bas fond*.

Treatment.—The treatment of this condition, if intended to be radical, must be directed to the removal of the cause of obstruction. The only satisfactory surgical means of attacking it is through incision. Perineal cystotomy was performed for a long time through the inspiration of Mercier, who was one of the first to conceive the idea of cutting the neck of the bladder through the urethral channel. The complications and difficulties following this were similar to those met with in the Bottini operation, among which may be mentioned hemorrhage, painful and prolonged bladder spasms, complete retention of urine, swollen testicle, prostatic abscess and profound urinary infection. All of these dangers result, if not removed when the perineal opening is made. One of the greatest objections to the Bottini operation is the lack of precision it allows and the many complications and difficulties which have occurred during and after its performance. The writer advocates a modified Bottini operation, which consists in employing a specially constructed instrument which performs the same function as the galvano-caustic knife of Bottini, which operates through the perineal opening. The speaker then described this instrument and the technique of operation. Sixteen cases were reported. The ages varied from thirty to seventy-three years of age, six being under forty-five and the remainder between forty-five and seventy-three. Out of this number there was but one death, which occurred five weeks after operation, from pyelonephritis. He concluded by saying that if a perineal opening was made many cases of the contracture type of prostatic hypertrophy would be recognized and that these, as well as many presenting unilateral or bilateral enlargement, would be found suitable to perineal prostotomy with the galvano-cautery. The perineal incision permits of exploration, which is better and more rapid than with the cystoscope.

DISCUSSION.

DR. ARTHUR T. CABOT, of Boston, expressed his great interest in the papers presented, particularly in regard to the Bottini operation, with which he had had no experience. He could but feel that one difficulty in this operation was that it did not provide immediate drainage to a suppurating bladder, and he thought Dr. Chetwood's modification might be of value in remedying that difficulty. He expressed his feeling that operation should be done on the prostate only in properly selected cases, and that the greater proportion of cases should be treated by the

intelligent use of the catheter. Educated men can easily learn the necessary manipulations of the catheter and can make themselves quite comfortable in that way. When after proper effort this method does not serve, an operation on the prostate is decidedly justified and wise. In less intelligent patients, the difficulties are so great in the proper care of the catheter, and in working men it is hard even to find the proper time to use the catheter, that in such cases an operation for the radical cure of the prostatic condition is wise, and when done early, before the bladder and kidneys have suffered serious detriment, is likely to be successful, not only in avoiding a fatal termination, but in restoring the patient to reasonable comfort. His present feeling is that if the bladder is opened above the pubes, it will sometimes be found that the projecting third lobe is acting as a ball valve and occasioning retention, which will be entirely relieved if that ball is cut away and the floor of the urethra is lowered to the floor of the bladder. He has seen several cases in which complete recovery has followed this procedure. When, however, the lateral lobes press upon the urethra and occlude it in that way, it seems wise to remove the whole gland, and the perineal operation described by Dr. Alexander seems certainly the most efficient way in accomplishing this.

DR. GEORGE CHISMORE, of San Francisco.—On account of my infirmity in hearing I was prevented from following the discussion of the papers as closely as I should wish, but I should like to express my individual impressions of what I did hear. In the first place, I do not think it is possible to commend too much the character of the papers presented this morning. There has been a careful and honest discussion and report of cases, and I look to the working out of a plan which will be capable of relieving men from the painful and frequent micturitions arising from conditions in the neck of the bladder, and senile hypertrophy. The points presented in the papers this morning are of great benefit not only on account of the clear character of the reports of case, but also on account of the light shown on the limitations of what we may hope to do in any surgical process or devise for their relief. For the first time, this has been adequately touched upon. We are often confronted with enlarged prostates associated with conditions causing a thickening and contraction of the bladder which results in constant efforts at emptying itself. Then there are other associated troubles, particularly that very interesting factor of spasmodic contraction of the neck of the bladder, the difficulty arising in the immediate neck of the bladder, quite apart from the prostate itself, that more clearly explain why one man with a small hypertrophy of the prostate will be subjected to an immense amount of difficulty, and another with a large amount of hypertrophy of the prostate will be subjected to but a slight amount of difficulty. Indeed, of late years it has seemed to me that we may yet discover a conservative effort on the part of Nature instead of the reverse, in senile prostatic hypertrophy.

Another point to which I wish to allude is this: That there are hundreds of cases under palliative treatment of catheterization who seem to live happily; and in view of the limitations of surgical procedures, even the most successful, I think as we get older we get more conservative in regard to prostatic surgery, because of the many accidents and fatal results which have been reported. So many results are so disastrous that the men would have been better without than with, an operation of this nature. I think the time will come when the surgeons will be better able to decide beforehand as to the respective merits and probabilities of relief from operations. I must confess that, at the present time, if I was unfortunate enough to have a hypertrophied prostatic gland, that I would be more

in favor of the palliative methods than of having resource to our present operative ones.

DR. JOHN P. BRYSON, of St. Louis.—The time limit of ten minutes renders it impossible to take up the subject properly, so I will confine myself to a brief statement of my experience in prostatectomy. I have done 106 of these operations upon 103 patients, with 13 deaths. I began doing prostatectomy in 1887-1888, and have continued doing it to within three weeks ago. Perineal prostatectomy I have done 39 times; deaths from all causes have numbered 3, or 7.5 per cent. Of these 3 deaths, one occurred from influenza, the diagnosis having been made by his family physician. Another death was from erysipelas, the source of which was known, the patient dying three weeks after the operation. Another death occurred from septic thrombosis of the plexus of Santorini, the infection having been due probably to the suprapubic puncture made by his physician for the relief of the retention. It is possible that a suprapubic cystotomy and drainage might have been better, as a preliminary operation, as it might have afforded an opportunity to clear out the pre-vesical space and prepare the way for the radical operation. It is, therefore, doubtful if any of these deaths were due to the operation of prostatectomy.

In all the earlier operations the prostate was attacked by the suprapubic incision; no proper selection of cases was made, and the mortality was high. I could not avoid the conviction that catheter life was uncertain and even dangerous in these old men, and this was the chief incentive to prostatectomy.

Later, in the early '90's, the combined suprapubic and perineal incisions were made, and the mortality was lessened. Next enucleation took the place of the rongeur forceps, cutting and curetting. Gradually I have been influenced to avoid the suprapubic incision so that, in the last thirty-nine operations, all have been done by the perineal route. I believe that, by this route, we are better able to deal with the conditions. I open the perineum by a free incision in the raphæ. Then, having the sides of the wound retracted, the urethra is opened on a grooved staff to about the apex of the prostate, running it back a little. After outlining the prostate and ascertaining if the finger can reach the vesical cavity I puncture the lobe on one side of the urethra. I do not puncture the capsule. The finger is introduced into this small opening and the prostatic urethra is torn. I find that it tears readily and, as a rule, longitudinally. This lobe is now enucleated with the finger. The process is then repeated on the opposite side. My experience with the operation shows that, in the majority of cases, the excochleation of the two lateral lobes permits the vesical sphincter to sink down within the reach of the finger, which may then enter the bladder and explore it with the aid of suprapubic pressure. Failing in this, I have, since 1898, made a suprapubic incision through the abdominal wall, into the pre-vesical space, opening neither the peritoneum nor bladder. Two fingers introduced here readily bring the bladder within easy reach and can press downwards any intra-vesical projections. By this method we can greatly reduce the time of the operation. I once operated upon two men on the same day, one in five-and-a-half minutes, the other in six. In several cases I have done the operation in ten minutes, one in fourteen and one in sixteen minutes.

I am inclined to believe that the great majority of cases can, by this combination of methods, be operated upon from the perineum and even extensive intra-vesical projections can be split open and enucleated from the vesical outlet.

Experience in this operation has caused me to avoid, as far as possible, inci-

sion of the vesico-urethral isthmus, the so-called internal sphincter. In three cases the hemorrhage was quite severe and it clearly came from this source, as we may readily understand by considering the anatomy of the vesical circulation. The bladder gets its blood supply from the vesical arteries which come from above; but the blood drainage is through and about the vesical outlet—the vesico-prostatic plexus.

At the Atlantic City meeting of this Association, five years since, I showed a bladder and prostate from which I had removed 144 grains of prostatic tissue by two incisions made from the bladder, and which had healed perfectly. The patient, however, died twenty-five days after the operation, from heart disease, and it was found that these incisions had healed, leaving only a line in the mucous membrane. I am quite sure that such does not occur so satisfactorily when we do the operation from the perineum. The anatomical conformation of the prostate and arrangement of its lobes, as we all know, are such that we can remove a considerable portion of the floor of the prostatic urethra without seriously interfering with micturition.

In four cases I removed prostates which had been previously incised by the Bottini method. In one case the intra-prostatic tension was sufficiently shown. When the finger was introduced it passed back into an abscess cavity which was producing the fever. The patient recovered. As the galvano-cautery knife passed down it split the capsule of the prostatic growth, and the tension was such that it tore from behind and allowed septic urine to enter.

In another case there was a great deal of vesical trouble produced by the use of the incisor, the parts failing to heal.

In looking at the specimen that Dr. Bangs has shown us, I think we may gain some valuable information. I think there is space enough left for infection from the urinary side of the mucous membrane to justify great caution when we make such an incision without providing for drainage and irrigation. If the urine is infected, it will not take long for the eschar to become infected, and the necrotic tissue becomes a source of danger when infected, and not a protection to underlying tissue.

The observations made by Dr. Bangs in his first case point to the fact that the galvano-cautery knife exerts an influence quite a considerable distance from the heated blade, and that constitutes a real danger, rendering it impossible to limit its action. I cannot see why or how it is that the galvano-cautery incision makes greater room than the incision by the knife.

I believe that enucleation of the prostatic growth from the perineum, by the method described, adds but little to the dangers of perineal urethrotomy or perineal cystotomy in these aged patients who, as a rule, die chiefly from conditions which precede the operation rather than from conditions brought about by the operation itself.

DR. JAMES P. TUTTLE, of New York.—I think that all such cases should be reported. I have done fourteen cases of Bottini operation up to the present time. I have had two or three cases in which was raised the question of the influence of the white heat. I believe the white heat causes just as much hemorrhage as the sharp knife. It does not seal up the lymphatics any more than the cold steel knife. With this fact in view I regulate the heat of the knife until I get a red heat and I attempt to maintain it at that heat. As a result, in all cases operated upon by this method, there was no hemorrhage, and in not a single case was there any sepsis. In one case I operated first by the white heat and I got considerable

hemorrhage; in another case I got considerable sepsis. Abscess developed in two cases, in one, two months after the operation, in another case, seven months after the operation. There was an immense abscess and I had to open the perineum. The danger of abscess formation does not cease with the first acute inflammation, but may exist for several months afterwards. I have had no deaths from the operation. In 6 out of the 14 cases the results were good; in the other 8 cases 4 were benefited, and in 4 no results followed except in one the patient was made worse.

DR. PAUL THORNDIKE, of Boston.—I am unable to speak from a large personal experience, but, at the same time, it seems to me that in an informal discussion like this, every one should express an opinion. I have taken occasion a number of times during the last three years to express my admiration for the brilliant technique of Dr. Alexander's perineal operation for the enucleation of the prostate, and I still possess admiration for that technique. At the same time, when I came here this morning I had great respect for the catheter, and I am still of the opinion that it has a place in the treatment of prostatic disease as a palliative measure.

I have been extremely interested in listening to Dr. Bryson's remarks, especially in his relation of his personal experiences and the description of his technique, but I should also like to hear him express his idea of the indications for radical prostatic operations.

I must confess that I have the feeling which Dr. Chismore has spoken of, which is that the catheter is not to be too lightly thrown aside.

DR. H. M. CHRISTIAN, of Philadelphia.—The interesting papers we have listened to this morning, together with the subsequent discussion, clearly demonstrated to my mind that the problem of the successful treatment of the hypertrophied prostate is still far from being satisfactorily solved. Personally, I am of the opinion that, at the present time, catheter life carried out intelligently offers the best solution of the problem. I have been much gratified to hear, during the course of this discussion, that quite a number of the association are of the same opinion.

I had begun to fear, in view of the large amount of operative work done upon the prostate gland recently, that my decided preference for the catheter showed distinct lack of progressiveness. Yet, out of all these cases operated upon comparatively few are entirely able to dispense with catheter life; certainly none of the cases that I have operated upon has been able to do so. I still feel that in fully 75 per cent. of the cases of enlarged prostate with from two to four ounces of residual urine, and an uninfected bladder, catheter life constitutes the most satisfactory means of treating this condition at present.

I was particularly interested in the paper of Dr. Chetwood's regarding the oar at the neck of the bladder. I could not help but be impressed with the idea that perhaps many of the cases so much relieved by the Bottini operation were in reality cases of the nature described in this paper.

DR. JOHN P. BRYSON, of St. Louis.—I think that in probably 80 per cent. of these people the catheter is used, and the catheter alone. I only operate when there are direct indications. I have erred rather on the side of conservatism. I would like to relate the case of a gentleman who came to me from the southern part of Missouri and who wanted a prostatectomy done. I asked him to draw off his water for me. He took from his pocket a silver catheter and, placing his back against the door of the operating room, spat upon it liberally, and introducing it quickly, drew off several ounces of astonishingly clear urine for one

habituated to catheter life. I told him that he should not be operated upon. The gentleman went home and one day I received a message asking me to go to him that night. I was unable to do so, but sent another, who found the man dead. He had had a long cab ride, and got an overdistended bladder. On reaching his house he failed to introduce the catheter and called assistance. Much force was used. A good deal of blood was lost and death was preceded by a high septic temperature. Such occurrences emphasize the uncertainties of catheter life. Even when these old men enter successfully upon catheter life, one cannot be sure when it may fail them.

DR. JAMES BELL, of Montreal.—I have had no personal experience with the Bottini operation. It does not seem to me a simple operation which makes an incision into the prostate out of which eschars must, sooner or later, develop. I do not know of any analogous process in surgery in which atrophy of an organ follows an incision made into it. The statement that the President has made is really a criticism of the Bottini operation. I was pleased to hear the members of this Association favor the palliative method, by catheter life. So long as the catheter life serves the purpose no radical treatment should be employed. I have never treated this condition by castration, nor have I done a Bottini operation, and until more light is thrown on the subject I am not likely to do it.

It seems to me that we are likely to go back after all from these methods which seem to promise a shorter road to the desired goal to advise one of two things, *i.e.*, better methods of catheterization with prospects of a better technique, and prostatectomy. Education of the general profession is necessary in the handling of these cases. I believe that many of these cases suffer largely from unsuitable and bad treatment from the start. When trouble begins the general practitioner is liable to make light of it and treat these patients in a routine manner. Once the general practitioner is taught to look upon catheter life as a serious matter and to look upon it as his duty to educate his patients, then, and not till then, will the demand for radical intervention be lessened. But, when we come to operative procedures, broad general principles stand out, which cannot be too radical.

Some of the speakers have advocated operations upon comparatively young men before serious complications have arisen.

DR. ORVILLE HORWITZ, of Philadelphia.—The hour is late, and feeling that I have already occupied more than my share of the Association's time, I will only say a few words in closing the discussion. The satisfactory results obtained by the operation, recounted by Dr. Bell, go to prove what I stated in my paper: "That partial suprapubic prostatectomy is indicated in certain conditions of prostatic hypertrophy."

The difficulty encountered in some cases, by Dr. Bangs, in attempting to pass a catheter after a Bottini operation, is similar to my own experience. When this condition pertains I have always found that the passage of an over-curved silver prostatic catheter will remove the obstruction sufficiently to permit the introduction of a silk web instrument.

Dr. Chetwood's paper is not only interesting, but instructive. I feel convinced that the operation that he advocates for the relief of "contractures of the neck of the bladder" will prove to be the most satisfactory method of treating this condition yet suggested.

I have had the opportunity of examining the neck of the bladder in sixty-one cases of prostatic hypertrophy; as a result of this experience I have come to the

conclusion that contraction of the vesical outlet, associated with prostatic hypertrophy, is a very rare complication. I have never met with a case of the kind. The only approach to it that I have seen is where the opening is obstructed owing to an inter-urethral growth. As a rule I have found the internal urethral opening to be usually patulous, readily permitting the passage of the index finger.

DR. L. BOLTON BANGS, of New York.—I wish to disclaim any intention to give the impression that I operate upon ALL prostatic cases; I do not, by any means, nor am I wedded to any particular form of relief. I am only endeavoring to give to the profession data which may be of value in regard to radical measures.

Officers Elected for the Ensuing Year.—President, Dr. W. T. Belfield, of Chicago; Vice-President, Dr. Paul Thorndike, of Boston; Secretary, Dr. James R. Hayden, of New York; Member of Council, Dr. William K. Otis, of New York. Next place of meeting, Atlantic City.

NEW YORK DERMATOLOGICAL SOCIETY.

293D REGULAR MEETING, JANUARY 22, 1901.

HENRY H. WHITEHOUSE, M.D., *President*.

A Case of Vascular Nævus Followed by Angioma.—Presented by DR. E. B. BRONSON.

The patient was a child one year old with a congenital nævus flammus of the right ear and surrounding skin, forming a patch about the size of the adult palm. On the same side, at about the center of the cheek, and an inch or more in front of the nævus, was a small angioma of papillomatous appearance with narrow contracted base and elevated nearly quarter of an inch above nivean. This little tumor had appeared only about a fortnight ago, had grown rather rapidly, and was attended with frequent hemorrhages, especially at night or whenever accidentally rubbed or otherwise injured. There was no definite history of traumatism at the start.

DR. J. A. FORDYCE suggested the use of the galvano—or of the Paquelin cautery for the treatment of the nævus on the cheek. It would leave less scarring, he said, than any other method.

DR. C. W. ALLEN said that he had attacked much larger nævi in a prominent situation, and there had been almost no scarring after electrolysis. He had operated upon a very large erectile nævus upon the cheek and in the region of the eye by passing a flat needle through the base with a pretty strong current, so that there was no bleeding. He had then threaded the eye with kangaroo tendon, and, having drawn it through, had tied off the mass in segments.

DR. S. SHERWELL said that he had operated twice very recently upon the eyelid in the case of a large and progressive nævus, by applying the small Paquelin cautery point very thoroughly. The result had been perfect, there being hardly any blemish. It seemed to him more reliable than the galvano-cautery. He had treated nævi in other situations with an insignificant amount of scarring. The cautery should be heated to a cherry-red.

DR. G. T. JACKSON said that such nævi should be destroyed in some way.

Electrolysis, he regarded as the best agent for destruction. Dr. Abbé was in the habit of destroying them by the use of a shoemaker's awl heated in an alcohol lamp to a red heat and allowed to cool to a black heat.

DR. G. H. FOX said that he had seen quite recently a naevus of the lip and nostrils in which the hot needles had apparently been used thoroughly, but the treatment had resulted in failure. A good result had followed from the use of the electrolytic needle.

DR. HENRY H. WHITEHOUSE said that he personally preferred electrolysis, using a current of at least three or four milliamperes. After having pierced it two or three times, the sensation was considerably benumbed. The method seemed to be much more capable of control than the Paquelin cautery.

A Case of Generalized Vesicular Vaccinia.—Presented by DR. C. W. ALLEN.

The child had been vaccinated eight days previously. Five days later the eruption had made its appearance. The case was shown because, at the meeting of the American Dermatological Association, held in this Academy two years ago, he had shown a similar case which had interested a number of those present from other cities. It was unusual for the eruption to occur before the ninth day. The lesions were all vesicular with clear contents except one on the arm about an inch from the site of vaccination, which was flat and pustular resembling exactly those forming the ring.

DR. G. T. ELLIOT said that the case appeared to him to be one of varicella, and not vaccinia. In any case of varicella, by running the finger over the vesicle, it would burst at once; this could not be done with either vaccinia or varicella. This applied to the case under discussion showed it to be one of varicella.

DR. FOX said that he did not feel that he could distinguish this eruption from varicella, although its occurrence so soon after vaccination made it possible that it was the eruption of vaccinia. All of the cases of vaccinia that he had seen had had crusts and pustules, and he had never heard of one simulating varicella.

DR. BRONSON thought it was a case of varicella.

DR. JACKSON said that there were a great many cases of varicella in the city at present looking just like this case, and if there had not been a vaccination sore on the arm he did not think Dr. Allen would have thought of vaccinia. He regarded it as varicella.

DR. SHERWELL said that he had seen that day a case of eruption following vaccination, and having a shot-like feel. There were none on the wrists or limbs. The vaccination had been done about twelve days before. It so resembled varioloid that it had shocked him, but the fact of no febrile or other subjective symptoms had made it evident that it was an efflorescence due to vaccinia.

DR. S. LUSTGARTEN said that he would consider it to be a case of varicella.

DR. FORDYCE said that the eruption looked like varicella, and had that distribution, but he did not think vaccinia could be absolutely ruled out.

DR. H. G. KLOTZ said that he could not see any distinction between this eruption and that of varicella.

DR. J. M. WINFIELD said that it resembled a case seen a short time ago—a woman whom he had vaccinated himself. The appearance and distribution had very closely resembled the case now under discussion. The point of diagnosis of rubbing off the tops held true in the case at first. He had been disposed to think it was a case of chicken-pox, but her child did not contract chicken-pox,

both of them had been kept under observation. Some time afterward crusts had appeared.

DR. ALLEN said that he could only agree with Dr. Jackson, that if the child had not been vaccinated he would have hesitated very much about making the diagnosis of a vaccinal eruption. Dr. Sobel, in an article last year, had shown that such eruptions of vaccinia may occur. The paper was based upon a large number of cases of vaccinia seen at the speaker's clinic, and among them quite a number of bullous eruptions of vaccinia. One could not follow a case of varicella for three days without getting the typical picture at that stage, and these cases of vaccinia had been carefully followed up. He would have this case also followed carefully, and would report to the Society if it should turn out to be varicella.

DR. FOX said that in the cases that he had seen there had been groups of varicella.

DR. ALLEN replied that a varicella, even at the end of the second day, would show changes in some of the lesions, giving the polymorphism. In the case presented this evening all the lesions had remained purely vesicular. There were, moreover, no lesions in the mouth of this child, yet, in the speaker's experience, it was a rare exception not to have lesions of varicella on the mucous membrane, either on the tongue, roof of the mouth, buccal membrane, or lips.

A Case for Diagnosis. —Presented by Dr. G. H. Fox.

The patient was Miss G., twenty-four years of age, who stated that she had had the disease on her neck for four years, that she was obstinately constipated, and that she had headache almost every day. She had first been seen by him on January 17, 1901, and he had then found on both sides of the neck two nearly symmetrical patches running down along the margin of the hair, but not encroaching upon the scalp, from just behind the ears. The patch on the left side came down below the lower line of the neck, curving outward, while the one on the right side stopped at the lower line of the neck. The patches were made up of grouped pin-head sized, firm papules, many of them of the color of the skin, but some slightly reddened. The individual papules were flattened, smooth, shining, some having follicular orifices, and resembling those of lichen planus. The patches were sharply defined.

DR. G. T. ELLIOT said that his diagnosis in this case was lupus erythematosus.

DR. BRONSON said that he did not remember to have seen lupus erythematosus showing such a distinct predilection for the follicles. Again, the eruption did not present the centrifugal character of lupus erythematosus, and there was just as much erythema at the center of the patch as at the periphery.

DR. SHERWELL thought the diagnosis was lupus erythematosus.

DR. LUSTGARTEN did not think it was lupus erythematosus. The spots on the neck seemed to resemble most lichen planus. The atrophies of the adjacent skin were like those sometimes seen in certain forms of lichen planus. He had never seen lichen planus on the scalp, though he had seen it almost exclusively confined to the face. The patch lacked something of the coloring of lichen planus. He would, however, exclude lupus erythematosus.

DR. JAMES C. JOHNSTON said there was unquestionably an inflammation with resulting atrophy. It occurred in circinate lichen planus, but this was an excessively rare disease, even on the limbs. The case seemed to him to resemble lupus erythematosus more than lichen planus. The process was certainly active

in the center as well as at the periphery of the patch, and the patches of atrophy were not like those seen in old cured erythematosus of the face.

DR. FORDYCE thought the scalp patch presented the features of a lupus erythematosus more than of any other condition with which he was familiar, though he was not prepared to say that this was the condition. The patch on the neck more closely resembled lichen planus. He would make a tentative diagnosis of lupus erythematosus.

DR. KLOTZ also made a diagnosis of lupus erythematosus

DR. ALLEN thought there was a possibility of a lichen planus extending from the neck upon the scalp to a limited extent. The lesion on the back of the neck certainly looked much more like lichen planus than lupus erythematosus. He still believed that the patch was lupus erythematosus. He had recently been asked to see a puzzling case that had involved a considerable part of the scalp. It was pre-eminently follicular and had destroyed much of the hair. His diagnosis in that case had been lupus erythematosus. He believed this disease could affect the scalp in a different way from that seen in other situations. He looked upon the case as a lupus erythematosus of a very peculiar type.

DR. WHITEHOUSE agreed with Dr. Fordyce that the lesion on the scalp resembled a lupus erythematosus more than anything else, especially in the peculiar shelving in at the periphery.

DR. FOX said that the lesion presented a violaceous hue in the daylight, and the peculiar scaling over the patch was quite similar to extensive patches on the forearm. There was a reticulated or streaked appearance. At the same time he did not think this was a case of lichen planus. He had never seen lichen planus upon the scalp, and in cases covering nearly all the body and lasting for many years it was strange if it should not occasionally appear on the scalp.

DR. LUSTGARTEN suggested that it would be worth while to make a microscopical examination in this case. With the aid of the microscope in a number of peculiar pictures the tubercle bacillus had been found to be the etiological factor, and the picture presented by this case resembled some that he had seen in superficial tuberculosis of the skin.

A Case of Diagnosis.—Presented by DR. G. H. FOX.

The patient had first noticed in March, 1900, five pea-sized lesions on the back of her head near the nape of the neck, and since that time new lesions had continuously appeared, forming a round patch. When first seen by him in November, 1900, a patch had been noted on the back of the hairy scalp, on the left side, which was about three inches in diameter. It was of purplish-red color, perfectly bald, sharply defined, and ceased at the hair-line below and to the outside. Its surface was dry, wrinkled, mottled with lighter colored, apparently cicatricial, spots in it. The whole patch was depressed below the surface of the scalp. The healthy scalp surrounding it appeared raised by contrast. The hairs at the margin of the patch were loose. There were no pustules about the hair. On the neck below the patch, and on the non-hairy part of the skin, was a small, circular dime-sized patch with a depressed center, and with some small flattened papules about it, suggestive of lichen planus. On the inside of the right cheek of the buttock was a patch similar to the one on the neck just described. The patient stated that she had, at the advice of a physician, applied some ointment to the patch on the scalp, which had made it sore. She showed the prescriptions which were for the ointment of the red oxide of mercury. There was a tender swollen gland in the neck on the same side as the patch. Since then the treat-

ment had been expectant with carbolized vaseline, up to a week ago, when an ointment of ammoniate of mercury had been used. Under this the patch had slightly paled.

DR. FORDYCE said that the case suggested one presented by Dr. Fox some months ago of pale papular lesions in the axillary space. He had made some sections of one of the lesions, and had found hypertrophy of the horny layer with dilatation of the coil ducts.

DR. JOHNSTON said that the only possible way of making a positive diagnosis was by the aid of the microscope, certainly the lesion had some connection with the sweat ducts. He could direct no keratosis.

DR. LUSTGARTEN took much the same view as Dr. Johnston, and expected that the microscope would show some affection of the sweat glands.

DR. FOX said that there was no linear arrangement as seen in the form of *nævus* referred to. The firm feel of the papules certainly did suggest the case referred to by Dr. Fordyce, as well as another case that he had presented, in which the lesions had appeared in the axilla and upon the pubes. These lesions had been extremely itchy and rebellious to treatment. He would not attempt any definite diagnosis.

A Case of Lupus Erythematosus of the Scalp.—Presented by DR. G. H. FOX.

The patient, twenty-five years of age, stated that the disease of the scalp dated back two years. The case was remarkable for the number of patches, about ten, and their distribution over the whole scalp. The oldest patch was on the left temple in front of the ear. There were cicatrices in the neck from broken-down glands dating from childhood. There were no patches of the disease on the face or elsewhere.

DR. FORDYCE said that the case was interesting in connection with the strumous glands of the neck.

DR. SHERWELL said that he had also been interested in the fact that tuberculous evidences were seen in this case of lupus erythematosus, just as is claimed they always are in lupus vulgaris.

DR. BRONSON said that sometimes when lupus erythematosus attacks the scalp he had noticed that it was attended with more sensory disturbance than on the face. Sometimes there was an acute erythema lasting for several hours, and attended with intense itching. The patient presented had stated there were similar attacks in her case.

DR. FOX said that the case was interesting because of the number of the patches on the scalp without lesions elsewhere on the body. In his experience, he had seen scars from the neck as a result of adenitis in quite as many cases of erythematous lupus as in lupus vulgaris, showing that there was a scrofulous basis in both diseases.

A Case of Universal Lichen Planus.—Presented by DR. C. W. ALLEN.

This was the young lady who had been presented two months ago to the Society with a very extensive lichen planus involving the whole body, neck, trunk, and limbs. She was presented now to show the results of the treatment and to give an opportunity to speak further on the surgical treatment. He had removed lichen planus nodules one-fourth of an inch in diameter and one-eighth of an inch in height, and had employed no treatment after the curetting. The itching had ceased and the lesions had disappeared. Nothing had been left but slight pigmentations. The woman had taken baths every night containing pine needle

extract, and having a temperature of 110° F. The disease dated back two years. The medical treatment had consisted in the use of a tablet composed of sulphur, five grains, cream of tartar, one grain, and podophyllin, one-eighth of a grain; one tablet three times a day.

DR. KLOTZ asked Dr. Allen if the warty growths had been affected by the previous treatment.

DR. ALLEN replied that there were lesions that had sprung up in the last stages. Since he had last seen the patient one or two new warty growths had appeared.

DR. BRONSON said that the treatment had been very successful, and he was interested to know whether the internal medication, the local use of the hot water or the pine needle baths ought to be credited with this good result.

DR. SHERWELL said that the case seemed to him to have been also treated largely medically; this was not, he considered, a case of purely surgical handling. The absorption of the tarry oil from the baths was an important feature of this medical treatment.

DR. LUSTGARTEN remarked that his own experience with hot baths and showers in intensely itching lichen planus had been rather gratifying.

DR. JOHNSTON said that if this disease were a granuloma, surgical measures were certainly indicated. Where the lesions were hypertrophic there was really nothing else to do.

DR. FORDYCE thought surgical treatment was the only proper management of these hypertrophic cases.

DR. ALLEN said he would like to know if surgical treatment had been practised to any great extent prior to his recent allusion to this subject before the Society. He now had a case which had been treated solely by curetting, and this had seemed to prevent further spreading and to result in rapid healing of the lesions so treated. It was an interesting question whether the bullæ formed in lichen planus are due to the disease or to arsenic administered. He had seen bullæ on the feet in patients under treatment and had been very much in doubt upon this point. This patient and several others that had been seen had developed bullæ when they had not been taking arsenic. He was of the opinion that these bullæ were an essential feature of the disease. Another question which arose was as to whether intercurrent zoster was the result of the use of arsenic. If we attempt to curette some lesions before removing the horny scale a blood blister may result. If this effect can be produced by curetting it might also be the result of scratching. This fact strengthened the speaker in his belief that the formation of the bullæ was an essential part of the disease, and he thought bullæ might arise spontaneously in certain regions.

An Unusual Case of Dermatitis Herpetiformis.—Presented by DR. G. H. Fox.

The patient was a man from the Out-door Department of the Skin and Cancer Hospital. When photographed some months ago the eruption suggested pemphigus or erythema bullosum. At present there was a recurrence of the eruption. From the grouped character of the lesion, papular and vesicular, it seemed to be an unusual case.

DR. ALLEN said that he had shown a case of dermatitis herpetiformis to this Society some time ago in the first attack. The question had arisen as to whether the woman would have subsequent attacks. He wished to report that she had recently presented herself with a few bullous lesions. She had been put on anti-

pyrin and had been instructed to come to this meeting if any more lesions appeared. It was probable, therefore, as she had not come, that there had been no further outbreak.

DR. A. R. ROBINSON said that the first patient with dermatitis herpetiformis that he had ever seen he had again encountered recently after a period of eighteen years, and he had been pleased to learn that in all this time there had been no recurrence. This man had been treated with arsenic, and had been cured very quickly.

DR. LUSTGARTEN said that in cases exhibiting an obstinate itching he had had very good results from the use of pilocarpin given hypodermically in doses of one-eighth or one-tenth of a grain. In a case of septic pemphigus, lasting for a considerable time, and finally resembling a dermatitis herpetiformis, pilocarpin had apparently effected a cure.

DR. SHERWELL commented upon the number of cases that had been presented lately in which the upper extremities and the upper part of the trunk had been effected. It seemed to him this was striking as formerly the lower portion of the body had seemed to be more commonly involved.

A Case of Lepra.—Presented by DR. J. A. FORDYCE.

The patient was a man, thirty-three years of age, a native of Venezuela. He had had syphilis in 1891, but this had not been followed by eruption. The man had entered the City Hospital about two weeks ago, and at that time he had numerous pigment spots over his trunk (some with annular outlines), extremities of face, a few of which were slightly infiltrated. He stated that before his admission each spot had been the seat of a nodule, but under the use of mercury, administered hypodermically, they had disappeared. His ulnar nerves at the elbow were found thickened and tender and the muscles of the left hand atrophied. A piece of skin over one of the infiltrated patches had been excised and contained, after careful search, a few lepra bacilli.

DRS. FOX and BRONSON concurred in the diagnosis of leprosy.

A Case of Lingua Nigra.—Presented by DR. C. W. ALLEN.

The patient was a young male syphilitic showing long black hair-like filaments, springing from the middle of the tongue. The condition had existed for six months.

DR. LUSTGARTEN said that in people with coated tongue who had used a bi-chloride mouth wash he had seen a similar appearance. The case did not impress him as one of typical black tongue, but rather as one resulting from the precipitation of mercuric sulphide.

DR. ALLEN asked if this would explain the length of the fibrils.

DR. LUSTGARTEN replied that the length of the fibrils and the center of the tongue where these fibrils are usually so large, seemed to him to still further confirm the view that he had just expressed.

A Case of Folliculitis Decalvans.—Presented by DR. A. R. ROBINSON.

The patient was a man, about fifty years of age, who had had this skin affection for ten years.

DR. H. G. KLOTZ agreed in the diagnosis, and said that it closely resembled a case that he had presented to the Society some time ago. That case was steadily progressing, but there was only very little scar formation.

DR. FOX asked how at the present time the eruption differed from one of stopped-up follicles, and the hair had come out in bunches, leaving a depressed

ciatricial condition. This patient had said that there had been lumps containing pus. It might, therefore, have some pustular affection causing alopecia.

DR. SHERWELL agreed in the diagnosis, and added that the man seemed to have a tendency to keloidal formations.

DR. LUSTGARTEN accepted the diagnosis.

DR. WINFIELD said that it resembled a case of this disease that he had seen.

DR. WHITEHOUSE thought the remarks made by Dr. Fox were very much to the point.

DR. ROBINSON thought the cases referred to by Dr. Fox were those of pseudo-palade, an entirely different condition. This was apparently a true folliculitis dependent upon pus organisms.

A Case for Diagnosis.—Presented by DR. H. G. KLOTZ.

This patient is fifty-two years of age, a shoemaker, German. When he presented himself for the first time at the German Dispensary, on January 5th, his face had the appearance of a seborrheic eczema. The lower part of the forehead, temples, cheeks, nose, and chin, and the upper part of the throat were of a dull red color, covered equally with very fine powder-like exfoliation on the eyelids and the immediate neighborhood of the eyes there was a moderate edema and a more lively red color. It was observed that the color and the swelling seemed to increase suddenly on some places and extended farther down toward the clavicle. On his next visit the condition appeared considerably improved, with less redness and less desquamation, only the process had slightly extended in front almost to the clavicle. On his next visit, on the 15th, he reported that a few days ago the entire face suddenly began to itch again, particularly the eyelids, with intense burning and itching, which have now subsided again to a large extent.

He stated that the trouble began about two months ago quite suddenly, without any apparent cause, and that since a number of such attacks have occurred. He is in partly good health, only inclined to constipation. The outlined condition resembled that of eczema or superficial dermatitis, the sudden breaking out suggested a dermatitis venenata, but nothing could be found which might have raised it. If I had to give a name to the affection I should call it an angioneurotic dermatitis.

DR. LUSTGARTEN thought the case was of a toxic nature. He had seen a similar condition in diabetes, and if sugar were not found he would suggest an investigation to see if the case were not one of dermatitis venenata.

DR. FOX said that the case seemed to him like a recurring case of erythematous eczema, so common in this locality, and attended by burning, itching, and edema, and finally resulting in loss of the eyebrows.

DR. G. T. ELLIOT agreed with what had been said about erythematous eczema.

DR. KLOTZ said he would examine the urine and report upon it. The peculiar feature seemed to be the periodical attacks of acute edema.

A Case of Supposed Tuberculosis of the Skin Turning Out to be Feigned or Self-Produced Eruption.—Presented by DR. C. W. ALLEN.

The patient had been operated upon for appendicitis eight years ago by a surgeon of this city, who had found the appendix tuberculous. She had recovered satisfactorily from this operation. She is a nurse by occupation. Last fall, after lifting a patient, she experienced some pain through the appendical region. One month later the operation scar swelled up and became bluish, and

subsequently broke down. It was surrounded by more or less dermatitis of an ill-defined nature. Two weeks ago he had been asked to take charge of the case, and at that time the condition presented a puzzling appearance. The ulcer was two inches and a half in length, and, at its widest part, three-fourths of an inch wide and three-fourths of an inch deep. A probe passed from the bottom of the ulcer nearly one inch towards the abdominal cavity, but did not enter the latter. He had made a provisional diagnosis of tuberculosis. The appearance of the skin at that time was something like that presented by morphea without the violet border. There was a mottled appearance and a desquamating dermatitis for an inch and a half around the sore. The patient had come to his office daily, and every day for four days there had appeared an erythematous ring a little over half an inch in width, almost surrounding the area of dermatitis. He had then begun to suspect that this was not a toxic effect from the ulcerating surface, as he had first supposed, but that it was a feigned eruption. He had, therefore, applied a dressing, making the straps come across the area of ring production in such a way as to interfere with the rings, being produced by external means. She was charged not to remove the plaster. The next day, on removing the plaster, there was entirely healthy skin beneath. She was then spoken to severely and told that no more rings would appear. No more rings had appeared. She had been treated by hypnotic suggestion. The ulcer had healed up rapidly under xeroform. A piece that had been excised showed coagulation necrosis, and on this a diagnosis of tuberculosis had been suspected by the pathologist.

DR. SHERWELL said that the circles were so perfect that he believed some slight vesicatory had been applied to the skin.

DR. LUSTGARTEN asked if hysterical stigmata were present.

DR. ALLEN said there was no history of ordinary hysterical manifestations; he had not examined for hysterical stigmata, anesthesia, etc.

NEW YORK DERMATOLOGICAL SOCIETY.

294TH REGULAR MEETING, FEBRUARY 26, 1901.

HENRY H. WHITEHOUSE, M.D., *President*.

A Case of Relapsing Bullous Eruption.—Presented by DR. J. A. FORDYCE.

The patient was a man, thirty-two years of age, who seven years ago had contracted a sore on the penis, followed by an indefinite rash on the shoulders and neck. Two years later he had had an eruption of blisters on the hands, arms and legs, with a sore and ulcerated mouth. Successive crops of bullæ had appeared for two months; then they had ceased to appear. Dark red and pigmented spots were left after the disappearance of the eruption. The patient had had in the last ten years five such attacks, the second one being the most severe, the blebs covering the entire body. Since then each succeeding attack had been somewhat milder than the one it followed, but all had lasted about two months. Lesions in the mouth had appeared with each outbreak, and in certain stages had closely resembled the mucous patches of syphilis. The patient had been treated at the City Hospital on one or two occasions for syphilis.

DR. LUSTGARTEN thought this was an ordinary case of pemphigus.

DR. SHERWELL concurred in this diagnosis.

DR. C. W. ALLEN said that a similar eruption was sometimes seen in persons taking acetanilid, phenacetin and the like.

DR. J. M. WINFIELD said that he would call it a case of benign pemphigus, and would exclude the indefinite history of syphilis.

DR. H. H. WHITEHOUSE thought it resembled benign pemphigus more than anything else.

DR. G. H. FOX said that not only certain drugs, but certain articles of food might produce a bullous eruption of this nature.

An Unusual Type of Syphilitic Eruption.—Presented by DR. FORDYCE.

The patient, a woman, had been admitted to the dermatological ward of the City Hospital with a diagnosis of psoriasis. The eruption at that time was stained from chrysarobin, and in some places very closely simulated a psoriasis. On the extensor surfaces of the arms there were diffuse superficial scaling lesions several inches in diameter, which considered alone could not be differentiated from psoriasis. The large plaques were evidently the result of the confluence of individual lesions, types of which could be seen at the margins of the patches.

On the face the eruption was of the more usual character, and was grouped about the mouth in a very typical manner. Mucous patches were found on the vulva with other concomitant evidences of syphilis.

DR. WINFIELD suggested the possibility of this being a case combining both psoriasis and syphilis. He recalled a young girl whom he had treated for psoriasis, and shortly after she had developed syphilis, and had subsequently presented a squamous syphilide resembling psoriasis very closely. At first, he had been led to look upon this last eruption as a second attack of psoriasis.

DR. FOX said that he had seen the same condition in one or two cases on the face, but never so marked on the body. He did not believe that psoriasis was modified by an attack of syphilis, although he would admit that possibly a psoriatic tendency might predispose to a squamous syphilide. He had under observation a case of typical psoriasis about the elbows, and also patches on the hands and wrists which are plainly a tubercular syphilide. The two diseases were just as distinct as though they had appeared on different individuals.

DR. ALLEN thought it was possible for the lesions of syphilis to be modified by a psoriatic tendency, just as they are by seborrheic eczema.

DR. A. R. ROBINSON thought there could be no doubt about the diagnosis in the case under discussion, but certainly he had seen cases in which it had been impossible to make a diagnosis at the first observation.

DR. S. SHERWELL was of the opinion that syphilis modifies the psoriatic eruption, and that it had done so in the present case. Seborrhea of the face caused by syphilis was not uncommon at all. This patient was moreover of the psoriatic age, by which he meant that it did not usually occur in infancy. Psoriasis was most apt to occur in adolescence, and rarely made its first appearance after the age of fifty.

DR. LUSTGARTEN said that he had no doubt that the combination of psoriasis and syphilis may exist, though it is rare. He had observed the lesions of psoriasis change in a syphilitic, and yield again under specific treatment, leaving the psoriasis as before. There was nothing very surprising about this. It was known that a laborer who works more with one palm than with the other was more apt to have a psoriasis palmaris on the hand used the more. He could not understand why the possibility of such an occurrence should be denied.

DR. G. T. ELLIOT said there was no question about the case being syphilis. He believed that a person might have both psoriasis and syphilis, but he could not see why a person who had had psoriasis should have his syphilis modified thereby. One might just as well say that syphilis would modify acne. A seborrheic eczema, he believed, bore an entirely accidental relation to syphilis.

DR. J. A. FORDYCE said that the woman had never had any psoriasis before. The case was not presented because of any doubt about the diagnosis, but because of the unusual character and extent.

Hereditary Lues of the Face; Pseudo-keloidal Scars Treated by Electrolysis.—DR. C. W. ALLEN presented a young girl, who had come to him last May with an extensive and disfiguring ulcerating crustaceous syphilide of the face. She stated that she had been treated for a year by a homeopathic physician for lupus, and had not improved. She presented Hutchinson teeth, evidences of interstitial keratitis, and was partially deaf. There were thick crusts covering the whole region of the mouth, nose and cheeks. Photographs were shown illustrating the condition of the girl at her first visit, and again one month later. The treatment had consisted in the administration internally of the chloride of gold, $\frac{1}{20}$ of a grain every four hours, and the use locally of mercurial ointment to soften the crusts. She was presented now to show the hypertrophic scars following this condition of the skin, and also the result of the electrolysis in removing these pseudo-keloidal scars.

DR. LUSTGARTEN said that it was well known that Hutchinson's teeth were not altogether reliable as a sign, nevertheless he supposed this was a case of hereditary syphilis.

DR. ROBINSON said that from the teeth and the affection of the eyes and ear he supposed it was a case of hereditary syphilis.

DR. FORDYCE said that he had recently had a case of tubercular syphilide of the face in a young girl. A diagnosis of lupus had previously been made, and she had reacted very markedly to a tuberculin injection. In spite of this, it had cleared up very rapidly under iodine.

DR. FOX said that years ago he had given chloride of gold in cases of syphilis, and had come to the conclusion that it was efficacious but inferior to the more ordinary methods of treatment. The fact that this case had improved so rapidly he attributed not so much to the chloride of gold as to the mercurials used externally.

DR. ALLEN said that it was only in certain ulcerative late lesions and possibly in some nerve lesions that the chloride of gold seemed to be better than mercury. It was probable that the local treatment had had something to do with the rapidity of cure in this particular case.

Lichen Planus of Eighteen Years' Duration.—DR. G. H. FOX presented this case, occurring in the wife of a physician. For some time it had been on one side of the body, but within the last seven years it had taken on this hypertrophic development, and the legs from the knees down had presented a more copious eruption that he had ever seen before. One peculiarity was that at times twenty or thirty of these lesions would suppurate. Her general health had been quite poor for some years past. Some of the lesions had been removed by curetting. According to the history the eruption had begun in an ordinary flat form.

DR. ELLIOT said he had seen the case about eight years ago, and it had been only on the legs.

DR. LUSTGARTEN said that he was not able to make a diagnosis of lichen planus here, although the eruption approached this most nearly. Without being able to substitute a better term, he did not feel that this was true lichen planus.

DR. ROBINSON said that the legs seemed to be so different from any case of lichen planus that he was loath to make that diagnosis. The fact that these lesions contained pus was in itself very unusual. There was often a good deal of transudation and a separation of the rete, but suppuration did not belong to lichen planus; hence there must be some unusual etiological factor.

DR. ALLEN believed that the condition had begun as a lichen planus, founding this opinion on the presence of certain flat lesions scattered between the others and which if occurring by themselves would lead one at once to make the diagnosis of lichen planus. Instead of remaining as dry lesions, the tissues hypertrophy and because of some internal disorder this bullous and suppurative condition is added. He had seen bullæ in lichen planus become purulent, and apparently they existed not as a result of arsenic. He had seen typical lichen planus lesions become filled with bloody fluid as a result of friction, or scraping, and purulent bullæ might result from infection in scratching. He would suggest curetting the lesions and the use of cholagogue cathartics. In some cases of lesions of lichen planus a horny plug existed which he had called the lichen comedo. It was quite possible for a suppurative process to form around such a plug in Nature's efforts to throw it off, and this might account for the peculiar comedo-like center of these suppurative lesions. The plug probably corresponds to the center of a papule where the umbilication is at times noted.

DR. E. B. BRONSON said he regarded the case as primarily one of lichen planus. At present, however, there seemed to be a dual process: Beside the primary disease, he believed there was a secondary infectious process due to pus organisms. It was surely possible enough for lichen planus lesions to undergo suppuration, as it was in the lesions of other diseases, such as those of eczema, psoriasis, and syphilis, in which case these lesions were always greatly modified in appearance.

DR. WHITEHOUSE also thought the case one of hypertrophic lichen planus with secondary inoculation with micro-organisms, perhaps as a result of pinching or other manipulations. The discrete character of the lesions was certainly very unusual.

DR. SHERWELL said that a profound impression on the system would sometimes cure lichen planus. He recalled an unusually severe case of lichen planus which had been entirely cured during a trip across the ocean and a severe attack of seasickness.

DR. FOX said that this was undoubtedly a case of what had been called hypertrophic lichen planus, yet he was almost persuaded to regard it as a distinct affection. The vulnerability of the tissues and the patient's anemic state probably account for the pus formation. He had seen cases of lichen planus which had been bullous, and even ulcerated. The long duration was not against lichen planus, for, he had already reported a typical case which had existed for twenty-five years. The general treatment of the patient rather than the local treatment of the skin was the important point. He had tried curetting on the arm, and while it had been painful it had seemed to be beneficial. The Vlemminck's solution he hoped would obviate the necessity for curetting.

DR. ELLIOT remarked that when he had seen the patient eight years ago it had been distinctly one of hypertrophic lichen planus. If a 40 per cent. solution of formalin were applied to these lesions he thought they would disappear rapidly.

A Case of Lichen Planus with One Half of the Body Treated.—DR. FOX presented this case, that of a man who had had very well-marked lichen planus on both hands. At the Skin and Cancer Hospital he had used first the diluted Vlemminck's solution, and afterward this solution in full strength on the right hand. The eruption had almost entirely disappeared, while the eruption and pigmentation was still on the other hand. Dr. Fox said that he had a photograph of the worst case of postular rosacea that he had ever seen. He had begun with the curetting on one side, and by the time he had gotten that side smooth the other side had also become perfectly smooth, though no local or internal treatment had been used there.

A Case of Intense Pruritus Due to Follicular Urticaria.—Presented by DR. C. W. ALLEN.

The case was one of factitious urticaria followed by generalized dermatitis implicating the trunk and extremities. It occurred in an Englishman, twenty-nine years of age, who had had eight years ago an intense pruritus lasting for two months, but without lesions of any kind appearing upon the skin surface. On February 4th he had presented himself with a history of pruritus of intense nature, involving different regions of the body, and more intense at times than at others. The present attack had appeared two weeks previously. An erythema of diffuse nature occupied the upper chest, corresponding to an area which showed marks of scratching. He said that late each winter since the first attack, itching of moderate degree had occurred, and had lasted usually well into the spring. On removing the clothing, the whole skin was seen to be in an exaggerated state of "goose flesh." There were no wheals, and according to the history none had been present. A test showed the presence of pronounced factitious urticaria or dermatographia. In the patches of dermatitis the follicular elevations were seen to be the parts excoriated in scratching. The treatment had been black wash containing menthol and carbolic acid. This had given great relief. He had also taken internally sodium bicarbonate in frequent doses, in plenty of water, together with gelsemium at night.

DR. LUSTGARTEN said that he had recommended the use of pilocarpin in some cases of urticaria. He had been led to do this because of having had a very obstinate case in a woman. He had learned that she had stopped perspiring for some months. The use of the pilocarpin had done good. He would recommend it given by mouth or hypodermically in Dr. Allen's case.

DR. FORDYCE said that he had used pilocarpin in two or three cases of chronic urticaria, in one instance with a very good result, but in the others with only a temporary relief from the itching.

DR. BRONSON said that he had used pilocarpin in a few cases, but its action was so severe that he did not like to use it in a chronic case, inasmuch as relief had been only temporary. He had had better results from atropia.

DR. LUSTGARTEN said that he used pilocarpin in the unusually severe cases.

DR. WINFIELD thought the diagnosis of urticaria was a peculiar one to make in this case, as the pruritus seemed to come on only in winter.

DR. ALLEN said that the man's general health seemed to be good, there was no error of diet, and no marked constipation.

A Case of Disease of the Nails.—Presented by DR. E. B. BRONSON.

The patient, a man thirty-three years of age, an engineer by occupation, had suffered from his present malady for several months. It had been first noticed on the feet, and shortly afterward the thumb nails had become affected, and suc-

cessively the nails of nearly all the fingers and toes. There had never been any sign of active inflammation, or any soreness. There was a somewhat doubtful history of syphilis, dating about sixteen years back. There was a venereal sore affecting the sulcus and inner layer of foreskin, which was treated by an apothecary in Liverpool. The patient thought the sore had been indurated, and described "a lump" noticed when the foreskin was retracted. There had been no buboes. The patient had no recollection of subsequent symptoms that could be identified as constitutional syphilis. For some months he had been subject to chronic rheumatism, and had occasional headaches, but mostly in the morning. The general health had been good, and he appeared to be well and robust. At present there was no sign of syphilis unless it were the affection of the nails. Many of the nails of the toes had disappeared entirely, or showed but a scanty growth of horny substance covering only a small segment of the nail bed. All the nails of the fingers were more or less affected, some showing only deepening of the longitudinal furrows with a tendency to split, while others were quite loosened from the bed. Others still were broken off and were much smaller than normal. In several of the nails the disease appeared to be confined to an area on one side as though the process had begun at the nail wall or on one side of the matrix. Within this area the nail was loosened from the bed and was darkened. The patient stated that the affection usually begun in this way on one side of the nail, gradually involving the whole nail, which finally dropped off. The disease was not unlike syphilis in the secondary period, but whether such effects could be attributed to a syphilis contracted sixteen years ago was questionable.

DR. WINFIELD said that the case looked to him more like one of neurotrophic disturbance than of syphilis.

DR. ALLEN said that in view of the patient's general good health and the lack of absolute symmetry he would look rather for a local parasitic affection.

DR. ROBINSON said that he had little doubt that it had originated in a syphilis some years previously.

DR. BRONSON said that it certainly resembled syphilis. He had always been under the impression that a disease of the nail which began in the wall and extended underneath was commonly syphilitic, but usually this occurred in the second stage. He could hardly understand how a syphilis sixteen years ago could cause such an affection. It does not run the course of a parasitic disease of the nail. Only a short time before this case had presented itself he had seen an almost exact counterpart of it. The patient was a woman presenting the same tendency to begin on the side of the nail, but there was a tendency to suppuration. He had thought of syringomyelia, but there was no anesthesia nor other nerve symptoms to favor such a diagnosis. He could get no evidence of syphilis.

A Case of Guttate Psoriasis with Lesions upon the Palms and Soles.

—Presented by DR. H. H. WHITEHOUSE.

The patient was a boy, ten years of age, who presented a thick, scaly eruption of psoriasis over the entire scalp. It had not been noticed by his parents until the appearance of the eruption upon the body and extremities two weeks ago. The disease, however, must have existed some months in that locality unnoticed. The acute outbreak, beginning two weeks ago, and now present, had consisted of numerous small guttate lesions scattered over the trunk and limbs with a few scaly points upon the neck and face. The abdomen is thickly covered with them, as also the extensor surfaces of the upper extremities; the elbows, however, are

quite free. A more confluent eruption covers the backs of the hands. A number of small scaly red papules are to be seen upon each palm, and the soles are affected in like manner. The eruption is sparsely scattered over the thighs and lower legs, the knees being unaffected. The family history was not of importance. The patient was presented chiefly because of the lesions upon the palms and soles, psoriasis in the latter region being a great rarity in the speaker's experience.

DR. BRONSON thought it was an unusually severe case for a child of that age.

DR. FORDYCE did not think psoriasis of the palms was very unusual.

DRS. ALLEN and SHERWELL looked upon it as an unusual type of psoriasis.

A Supplementary Report by Dr. C. W. Allen on the Case of Feigned Eruption and Hysteria.—This case was the one presented at the last meeting of the society. He had since examined for hysterical stigmata, and had found almost complete anesthesia of the throat and tongue, and also areas of cutaneous anesthesia. There was tenderness over the left ovary, but no history of hysterical outbreaks. He had sealed up the lesions, and had attempted hypnotic treatment on two occasions, but without success. Under hypnotic suggestion no further breaking down had been observed for a certain length of time.

A Case of Acute Keratosis Follicularis.—Presented by Dr. G. H. Fox.

The patient, a negro, stated that one month ago his skin had been perfectly smooth and sound. Since that time a general follicular eruption had occurred, and projecting from most of the follicles little spines could be plainly seen.

DR. ELLIOT thought the case was more like the lichen pilaris of Crocker.

DR. FOX replied that the rapidity of the development would suggest an inflammatory element.

A Case of Dermatitis Herpetiformis Restricted to the Hands.—Presented by DR. H. G. KLOTZ.

At one of the more recent meetings of the Society in the discussion of a case of dermatitis herpetiformis, it was mentioned—if I am not mistaken, by Dr. Fox—that this disease might occasionally occur on certain portions of the body exclusively. At that time I stated that I had such a case under observation for several years and that I hoped to present the patient at some future meeting of the Society.

Rosa B., twenty years of age, a native of Austria, came to this country about five years ago; she was employed as a servant, and had to work a good deal in water. About a year later she developed an eruption on both hands and forearms, which showed the characteristic symptoms of a subacute eczema. She was at that time admitted to the German Hospital, and left the same with but slight traces of the affection. But soon after new eruptions began to appear on the hands in the shape of round, oval, or irregular red patches, on which usually small vesicles begin to appear, which dry up very rapidly into thin crusts. Sometimes there was here more pronounced scaling, but at no time could any deeper infiltration or formation of papules be observed. These patches cause more or less intense itching and burning, and at times render the patient entirely unfit for work, although she has given up housework and tried sewing and dressmaking. Since 1897 her hands have been free from eruption only for very short periods. She has been treated with several internal remedies without any lasting effect. Local anointment of white precipitate of mercury and oxide of zinc has given the best results, particularly in mitigating the itching.

DR. FORDYCE thought the case was one of eczema.

DR. WINFIELD thought it was an eczema, possibly of the so-called neurotic form.

DR. ELLIOT said that he had never seen this form of eczema except on the extremities, and occurring in patients who were very anemic. It was probably parasitic in nature. Treatment along these lines would usually effect a cure promptly.

DR. SHERWELL thought it was an inflammatory trouble in a strumous lymphatic woman.

DR. ROBINSON thought it was an eczema of a neurotic type. Sometimes it was dependent upon anemia, sometimes on a toxemia, but never directly dependent upon a parasite. He had never found any antiparasitic which was of benefit.

DR. ALLEN thought it was essentially a winter disease, and although occurring in anemic girls it could be usually cured by Lugol's solution and methylene blue without paying any attention to the anemia. He looked upon these cases as examples of mycotic eczema.

Selections.

Alopecia Præmatura (Alopecia Seborroica, Pityrodes, Furfuracea).—By S.

BEHRMANN (*Monats. f. prak. Der.*, Vol. 32, 1901, p. 185).

The author sees the main point of the causation of this disease in the action on one side of ptomaines which are eliminated from the system, and on the other side in the insufficiency of formation of keratinin in the system. Consequently he advises a mixed diet and exercise as the best systemic remedies, and local and internal use of sulphur.

The Dystrophic Form of Epidermolysis Bullosa Hereditaria. —By DR. BETTMANN—Heidelberg (Erb's Clinic) (*Arch. f. Der. u. Syph.*, Vol. 55, p. 323, 1901).

The article is based upon observation of three patients—brothers, twenty-seven, twenty-one, and seventeen years respectively—who suffered from the disease. The three remaining members of the family were not affected.

The peculiarity of the cases consists in the fact that in all of them the disease presented similar features as to the time of outbreak and aspect of the disease. The difference was only in minor points. In all three the disease started in their twelfth year; in all three the nails of fingers and toes were involved; in all three the mucous membrane of the mouth and tongue was taken in; in two, marked leucoplasia; in all three bleeding from the nose was a frequent occurrence; in the youngest patient, in addition, profuse rectal bleeding happened several times—hemorrhoids were not present. In two of them the skin of the dorsal aspect of the hands was atrophied, exhibiting lentigo-like pigmentations in a marked degree. The third patient was not examined for this symptom. All three patients had red hair while the healthy members of the family had hair of different color. A peculiar symptom was noticed in the mother of the patients. She never suffered from any bullous eruption, but with the cessation of menstruation in the last two years, a change took place in the skin of the dorsal aspect of both hands. The skin of the hands is thin, but unusually harsh and adherent,

immovable. It was impossible to fold the epidermis. Round, pea-size, liver-red, disseminated patches were scattered over the surface, and upon the small articulations of the fingers several pernio-like tumors could be seen. In various places linear or round shiny white scars, lentigo-like pigmentations and telangiectasia were noticed. No ulceration; nails in good condition. The affection in the mother rather resembled xeroderma pigmentosum.

The localization of the disease was not uniform in the three patients. In one the face and extremities were mostly affected; in the others, the whole body.

The bullæ were mostly hemorrhagic in appearance. Urine normal; blood normal as to the number of red and white corpuscles. Eosinophiles, 6-8 per cent.

The best satisfaction in treatment was obtained from greasing of the sores and skin.

The author tried various experiments in order to produce a bulla. Chemical irritants not only did not produce a bulla upon the affected portions of the skin, but also the redness was of less intensity, shorter in duration and not so quick in its appearance as when applied to portions of the body not affected. Rubbing or pressing produced a bulla without evoking any urticaria. When salt solution was injected under such an area, the epidermis was raised upon a large area forming a bulla till it reached a scar, when it stopped. With the withdrawing of the needle the bulla collapsed to be soon filled up with serum. From this experiment the author concludes that there is a primary abnormal loosening of the skin, either between various layers of the epidermis or between epidermis and rete.

The contents of the bulla were of alkaline reaction, contained albumin and very small amount of eosinophile cells. No micro-organisms could be discovered and the contents of the bulla being injected into the veins of a rabbit did not produce any reaction.

Histologically, the bullæ are formed, according to the author, in the rete mucosum. He could not convince himself from his sections that the epidermis was primarily in toto loosened from the papillæ.

The microscopical examination of the mucous membrane of the mouth evinced the presence of sebaceous glands and a formation of cysts in the epithelium developing primarily in the walls of the sebaceous ducts.

Erythema Multiforme and Vaccination. —NORMAN WALKER (*British Med. Jour.*, 1901, p. 1201).

Five cases of erythema multiforme following vaccination came under the writer's observation. All of them were vaccinated not long before the appearance of the erythema; all of them were vaccinated with glycerinated lymph, and in all of them the early course of the vaccination was uneventful. In three of the five cases there was nothing more than a slight feeling of malaise. The eruption developed always on the hands and the face, but on other parts as well. At the same time the vaccination area showed evidence of fresh activity. In two cases the scabs had fallen off, and apparently all was over, but coincident with the eruption, fresh vesicles developed on the part, just as if the patient had again been vaccinated. The course of the erythema was uneventful, the eruption rapidly disappearing.

The author is inclined to accept Gilchrist's suggestion that a toxin is produced which, circulating in the blood, produces that form of erythema which we know as erythema multiforme, and especially that variety described as erythema iris.

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SIX CASES OF BULLOUS DERMATITIS FOLLOWING VACCINATION, AND RESEMBLING DERMATITIS HERPETIFORMIS.

BY JOHN T. BOWEN, M.D.,

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AN outline of a part of this paper was presented to the American Dermatological Association, at the meeting in Washington, in June, 1900. Since then I have been able to study the cases more fully and to add a new one to those reported at that time. All of them were observed in Boston, from 1895 to 1900. A better opportunity was offered for the study of some of these cases than of others, and at the time of the occurrence of the first of them my attention had not been directed to the special pathological features of bullous dermatoses, nor to the question of eosinophilia. A brief résumé of each case will be given at the end of the description, and the cases discussed as a whole after all have been described.

CASE I.—Harold M., male, four years of age, entered the Boston Children's Hospital, December 9, 1895. Family history good. No previous illnesses except pertussis and varicella at two years of age. According to the account of the mother, the child was vaccinated seven months ago. Two weeks after vaccination small "water blisters" appeared around the site of vaccination, which spread downward over arms and hands, and appeared on the legs three weeks after they were

first noticed on the arms. At about the same time there were some lesions noted on the face and buttocks. There have been a few lesions on the trunk. The eruption during the last six months has been constantly recurring and the child has never during this time been wholly free from cutaneous lesions.

December 9, 1895. Physical examination. Lungs and heart normal. Temp. 99°. Resp. 32. Pulse 92. Urine normal. There was some edema under the left eye, and also at the base of the nose. The eruption is most marked on the head, hands and feet. On the face are numerous small vesicles and bullæ, some isolated, others grouped, the grouping occurring chiefly about the nose and mouth. There are many isolated vesicular lesions, without a trace of surrounding inflammation or induration. There are other larger, confluent and purulent lesions, which have become crusted and excoriated in places. Around the neck, chiefly at the back and sides, is an erythematous area, upon which are situated a few vesicles here and there.

On the upper and lower arms there are a number of vesicles and bullæ, both single and in clusters. The most prominent lesions are upon the backs of the hands, which are covered with large and small bullæ intermingled with crusts. Many of the blebs are purulent. The lesions are especially marked at the roots of the fingers, where there are thick clusters of bullæ and crusts, with some erythema and superficial induration of the cutaneous tissue beneath. Over the lower abdomen and thighs are numerous patches of pigment and erythema, indicating with little doubt the seat of former bullæ.

On the lower legs the groups of vesicles and bullæ are more numerous than on the thighs, while the feet are affected in a manner quite similar to the hands, the dorsal surface of the feet being covered with groups of vesicular and bullous lesions, often containing pus, and in many instances intermingled with crusts. The soles are free from lesions, with the exception of the heel of one foot, which is almost entirely occupied by an enormous superficial bulla containing greenish pus. *There is considerable, but not excessive, pruritus.* No lesions on visible mucous membranes.

December 14th. Under rest in bed, antiseptic solutions and borated applications the crusts have disappeared, together with most of the purulent manifestations. The erythema of the neck disappeared the day after entrance, as well as the edema about the face. Some half dozen new bullæ have appeared on the cheek, chest and left foot. These are seen to arise as small lesions upon a wholly normal, non-reddened skin.

December 18th. General condition is good, but a number of fresh bullæ have appeared about the mouth. There has been a very slight

rise in the evening temperature. The bullæ are observed to rise upon the normal skin surface, without preceding lesions of any sort.

December 23d. A few lesions have appeared from time to time on the face, hands and feet. The old lesions are drying up and rapidly disappeared, leaving an erythema, with very slight thickening of the skin at the site. Yesterday two good sized bullæ appeared on the backs of the hands.

December 30th. One new lesion of back appeared yesterday.

January 14, 1896. A few new vesicles and bullæ have made their appearance during the last two weeks, from time to time, especially about the mouth and on the backs of the hands, the parts most prominently affected when first seen.

January 20th. No new lesions have appeared, and all the old ones have disappeared, leaving only hyperæmia and pigmentation. Patient discharged to enter the Convalescent Home at Wellesley.

February 18th. The child was perfectly free from the eruption for nearly three weeks. He now returns with another attack, less pronounced than the first, but there are numerous vesicles and bullæ, tense and without inflammatory base, on the hands, feet, arms and legs. There are also a few at the angles of the mouth. The trunk is free. Cultures attempted from the fresh vesicles remained sterile. There is moderate pruritus.

On March 26th he was discharged. At that time the lesions were fewer in number, but had not ceased to appear.

In March, 1900, *i.e.*, four years after the patient had left the hospital, it was ascertained from the child's parents that soon after leaving the hospital he had diphtheria and soon after that measles. Upon the disappearance of the eruption of measles the vesicles ceased to form and there have been no recurrences. The general health has been exceptionally good.

In this case, therefore, we have the history of a boy of four years, who developed two weeks after vaccination a vesicular and bullous eruption with some tendency to grouping, especially marked and confluent on the face, about the nose and mouth, on the backs of the hands and wrists, and on the dorsal surface of the feet. The other portions of the extremities were moderately affected, while there were but a few scattered lesions on the trunk. There were also purulent lesions intermingled with the vesicles and bullæ. There was moderate pruritus. These manifestations kept recurring constantly for ten or eleven months, during which time there was one interval of complete freedom from the eruption for three weeks. When last heard from, there had been no recurrence for three years and a half.

CASE II.—Florence C., seven years old, entered the Children's Hospital January 7, 1897. Her family history was good, and she had had no previous illnesses except whooping-cough, at the age of three. She was vaccinated about four months ago, and according to the mother's account two weeks afterward there appeared near the elbow of the left arm, on which the vaccination had been performed, numerous "water blisters," which soon spread over the upper part of the arm, across the chest, and over the right arm. At the end of a week from the time when the first appearances were observed, there were numerous lesions upon various parts of the body, accompanied by some itching and burning. The eruption has continued to recur since then, and at no time has the skin been clear.

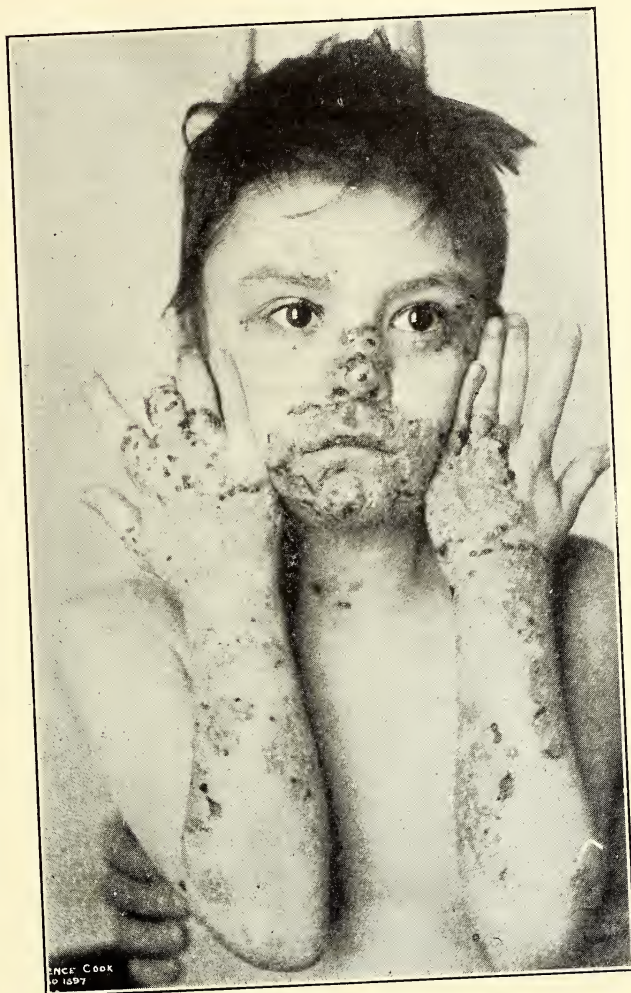
On entrance the patient appeared to be fairly well nourished. Physical examination of the lungs revealed nothing abnormal. At the apex of the heart was a loud systolic murmur, transmitted into the axilla. The apex beat was best felt in the sixth interspace in the mammary line. There was marked pulsation over the whole epigastrium. The area of the heart's dulness was somewhat increased. Nothing abnormal was detected on abdominal examination. Examination of the urine gave the color normal, reaction acid, specific gravity 1021, no albumen, no sugar.

The lesions consist mainly of groups of vesicles and bullæ. It is noted that the face, the forearms and hands and the lower legs and feet are the parts most prominently affected. There are masses of confluent bullæ about the mouth, nose and eyes, and also upon and about the ears. On other parts of the face and neck are isolated vesicles or small groups of bullæ. Where the lesions are isolated there is no surrounding redness or infiltration. In some of the lesions the fluid contents have become purulent, and there are some crusts intermingled. In the region about the mouth, lips and chin, where there is a confluent mass of vesicles and pustules, these lesions do not appear directly upon the sound skin, but upon infiltrated and papular elevations, which give the impression of having been formed by the constant recurrence of the bullæ in this situation. The trunk is practically free from the eruption, with the exception of a cluster of vesicles and bullæ on the back. There are no lesions of the upper arms. Somewhat below the elbows, on both flexor and extensor surfaces, are numerous isolated and clustered lesions, in places purulent. The backs of the hands and the roots of the fingers are the seats of very marked confluent lesions, enormous numbers of various sized vesicles and bullæ appearing upon an infiltrated reddened base, as in the case of the lesions about the mouth. There is so much infiltration of the subcutaneous tissues here

that a papillomatous, fungoid appearance is produced. There are absolutely no lesions nor pigmentation of the last two phalanges, and the palms are free.

There are a number of clustered lesions about the thighs and gen-

FIG. 1.



Case II.

itals, accompanied by crusts and light redness and pigmentation of the skin. The knees and adjacent parts are pretty free, while below the knees are confluent masses of vesicles, bullæ and crusts, which extend down almost continuously to the feet. The backs of the feet are the

seat of innumerable lesions, mostly small in size, seated upon an infiltrated base, of uneven, papillomatous character. The papillomatous aspect that these vesicles in all stages of development arising on an infiltrated base suggests, is especially well marked at the roots of and over the toes. The soles are free. There are no appearances on the visible mucous membranes. Cultures taken from the fresh vesicles remained sterile.

March 17th. Lesions have continued to develop on the localities previously affected, enormous numbers of vesicles and small bullæ appearing on the infiltrated areas, about the mouth, on the backs of the hands and fingers and on the feet. The papillary, almost warty, appearance produced by these areas is still more apparent. There is no itching.

A few days ago it was noticed that the urine was dark, and examination revealed $\frac{1}{8}$ per cent. of albumen, and hyaline and epithelial casts and blood corpuscles. This condition quickly disappeared. There is a systolic murmur at the apex, but there are no other symptoms.

April 25th. The lesions have continued to appear, and although the affection is less marked than on entrance, there is not a great amount of improvement. It has been only by the greatest care in the dressings and treatment that the lesions are prevented from becoming pustular and crusted, and in consequence very offensive. New vesicles and bullæ have continued to appear with great regularity. The face, about the mouth, nose and ears, the backs of the hands and roots of the fingers, the dorsal surface of the feet, and about the roots of the toes, are the parts most prominently affected. The child is up and about, and seems fairly well. Discharged at request of parents. It was impossible to trace this child after she left the hospital.

To sum up briefly, a girl of seven developed two weeks after vaccination a vesicular and bullous eruption, which often became purulent. There was a marked tendency to grouping, and the parts most prominently affected were much the same as in Case I., *viz.*, the face and especially the skin about the eyes, nose and mouth, the forearms and hands, and the lower legs and dorsal surface of the feet. The trunk was practically free. In the places where the lesions were most numerous there was a papillomatous condition of the skin below. There was no pruritus. There was also in this case an affection of the heart and an intercurrent disturbance of the kidneys. Up to the time when the patient was lost sight of, these lesions had been constantly appearing for between seven and eight months.

CASE III.—Richard J., born in America, parents Swedes, was first seen at the Massachusetts General Hospital, October 21, 1899. He

was ten years of age, stout for his years, with very blond hair and of a decidedly robust appearance. Family history good, six brothers and sisters alive and well. Has had no previous illness of importance. The mother's story is that the boy was vaccinated three months ago. Just one week after vaccination "water blisters" appeared on the arm near the seat of vaccination, which rapidly extended to the other arm, and later to both legs, but sparing the trunk in great part.

When seen the patient's condition was very good, with the exception of the cutaneous trouble. There was very little itching. The eruption was most pronounced on legs and arms. The head was somewhat affected, presenting here and there a few scattered bullæ and vesicles, from the size of a pea to that of a bean. The most marked appearances were of and about the ears, where there were clustered areas of vesicles and bullæ intermingled with crusts situated upon an erythematous and slightly infiltrated base. On the trunk a few scattered bullæ, with a slightly erythematous periphery and a few areas of hyperemic and slightly pigmented skin, which marked the site of previous lesions. The extensor surfaces of the arms and legs were almost completely covered with bullæ and vesicles in all stages of development, which appeared upon a slightly infiltrated base. The flexor surfaces were affected to a much less degree, except about the knee joints, where there were confluent clusters of bullæ, which rendered walking difficult and painful. There were prominent clusters at the roots of the fingers and on the dorsal surface of the feet. The eruption ceased at the metacarpo-phalangeal joints, so that the fingers were practically exempt. The lesions in this case were nowhere purulent. There were some lesions and groups of lesions on the flexor surfaces of the limbs, but they were far less abundant than on the extensors. There were no lesions upon the genitals.

On November 9, 1899, this patient entered the Children's Hospital, where he was seen again. There had been no improvement in his condition; in fact, the eruption was more pronounced than when he was first seen. New crops of bullæ had been continually appearing, still most prominently on the extensor surfaces of the extremities and on the ears and sides of the cheek. On physical examination nothing abnormal could be detected in thorax or abdomen. The urine was normal. Temperature and pulse normal. There were no abnormal appearances on the visible mucous membranes.

November 14th. A large superficial abscess appeared on the forefinger of the right hand, involving the subcutaneous tissues, which was opened, and healed in two days.

November 22d. Crops of vesicles and bullæ have been constantly

appearing, some upon an erythematous base, others not. On the whole, the extent of the eruption is much less than it has been. Very moderate itching, but some soreness and discomfort.

November 28th. Discharged from the hospital. There are still a few vesicles and bullæ upon the arms and legs, together with large erythematous areas, with some pigmentation at the points where there have been constantly recurring lesions. The general condition remains good, and apart from the cutaneous lesions the boy has the appearance of robust health.

On April 2, 1900, inquiry brought out the fact that the bullæ and vesicles ceased to form soon after leaving the hospital. The father states that the boy is troubled with a certain amount of itching, chiefly of the arms and head, at the site of the former lesions, but there has been no eruption for over three months.

In this case the eruption appeared in a boy of ten, one week after vaccination. It consisted of vesicles and bullæ, appearing in some instances upon a preceding erythematous area, situated chiefly upon the head, and especially upon and about the ears; and in its greatest development upon the extensor surfaces of the forearms and legs. There were only a few scattered lesions upon the trunk. There was very moderate pruritus. The eruption continued to appear constantly for from four to five months, when it disappeared, and when the patient was last heard from there had been complete exemption for over three months, with the exception of slight itching.

CASE IV.—Simon G., mulatto, five years of age, came to the Massachusetts General Hospital on November 23, 1899. His mother asserts that he was vaccinated on the 9th of September, and that just one month later his present eruption began, being first observed on the shoulder. The child was well nourished, and apart from the discomfort caused by his cutaneous lesions in good physical condition. Physical examination was negative. Temperature and pulse normal, appetite good. The eruption was purely vesicular and bullous, the earliest lesion to appear being a small vesicle apparently, which either remained as such or increased but slightly in size; or, as was frequently the case, enlarged peripherally to become a good sized or enormous bulla, tense and even, before collapsing. In other instances the bulla would sink down in the center, while the vesicular formation continued at the periphery, so that a ring of fluid was produced. On the head these lesions were grouped about the forehead in one or two places, and were especially noticeable about the lips and ears. The eruption was scattered pretty evenly over the abdomen and back, where there was little tendency to grouping. The vesicles and bullæ arise, as a rule, from

the normal skin without redness of the periphery. There are numerous lesions upon the penis. The lesions are spread pretty evenly over arms and legs, with the exception that the dorsal surfaces of hands and feet are the seat of very thickly clustered manifestations. There is no infiltration of the skin beneath.

A blood count by Mr. F. B. Winslow showed: Neutrophiles, 63 per cent.; small basophiles, 14 per cent.; large basophiles, 5 per cent.; eosinophiles, 18 per cent. There were large numbers of eosinophiles and red blood corpuscles among the leucocytes in the fluid from the bullæ.

There was considerable difficulty in walking on account of the soreness from the lesions upon the legs. There was some pruritus, not however described as excessive, and there were no marks of scratching seen.

On January 2, 1900, it was learned that the vesicles and bullæ had continued to appear in gradually decreasing numbers, until about ten days before, when his condition was much improved. Then suddenly, without apparent cause, there was an exacerbation and at this time the condition was nearly, although not quite, as bad as when first seen. The general condition continued very good, and there had been no other symptoms.

On April 10, 1900, it was reported that one month ago the skin had been entirely clear for two days, after which the vesicles began to appear, and now his body, with the exception of his back, is quite thickly covered. There are numerous purulent lesions present also, and some evidences of scratching. The entire skin is rough and slightly infiltrated.

The patient was then lost sight of until December 12, 1900, when he entered the Children's Hospital, where an opportunity of watching the daily course of the affection was afforded. On entrance it was stated that since the last report the skin had never been wholly free from lesions. The child's general condition was good. Physical examination detected nothing abnormal; urine normal. The face was pretty free from lesions. There was some hyperpigmentation about the mouth, together with some small erythematous rings. There were one or two small bullæ on the forehead. On the chest and abdomen there were numerous small and large bullæ, with erythematous edge, many of them collapsed and crusted at the top. Numerous bullæ on the flexor and extensor surfaces of the arms, mostly collapsed, from the size of a small pea up to surfaces of the diameter of $1\frac{1}{2}$ inches. On the backs of the hands and wrists the epidermis was extensively separated, giving the appearance of a large burn, with the circular out-

line of the bullæ very apparent, and with numerous bullæ at the periphery, both large and small. On the back the appearances are somewhat different, in the *multiformity* of the lesions. Here, scattered pretty generally, are large and small bullæ, many surrounded by an erythematous zone, together with collapsed bullæ represented by areas of partially detached epidermis. There are also very numerous erythematous areas, some small and rounded, others, evidently enlarged from these, in the form of circles which have cleared up in the center, or in the center of which vesiculation has appeared. In the groins are enormous bullæ, some of them $1\frac{1}{2}$ inches in diameter, filled with serous or sero-purulent fluid. On the abdomen are a few erythematous circles, similar to those on the back. There are also small erythematous rings on the penis. There are few lesions on the legs, chiefly bullæ, and scattered crusts, together with a few erythematous areas. The backs of the feet are the seat of several large bullæ, erythema and pigmentation.

December 14th. The erythematous areas on the back, which took the form often of circular or crescent shaped patches, have become vesicular and bullous, so that now rings and crescents of fluid contents are to be seen. It seems as if all of these erythematous areas were succeeded by a bullous formation. These circular and crescentic vesicular lesions are usually small. There are also numerous larger bullæ interspersed, either tense or collapsed.

December 16th. Numerous cultures taken from the vesicles and bullæ remained sterile. Blood examination: Hemoglobin, 65 per cent.; red blood corpuscles, 5,100,000; white blood corpuscles, 7,400; neutrophiles, 71 per cent.; basophiles, 16 per cent.; eosinophiles, 13 per cent. Numerous eosinophiles in the contents of the vesicles and bullæ.

December 19. The lesions last described upon the back have in great measure disappeared, leaving a deep reddish discoloration. There are still a few large isolated bullæ. There are still a number of bullæ upon the abdomen, and there are large bullæ in both groins. New bullous lesions have appeared scattered here and there over the body, while about the knee and over the ankle joint there are very numerous large and small bullæ. The treatment since admission has been quinin, 2 grains three times daily, and borated ointment, with frequent washing in strong borated solutions.

December 29th. The skin has cleared very much. There are now but a few lesions of the face, practically none on the trunk. The backs of the hands and wrists and the backs of the feet are the parts most affected now.

January 7, 1901. All the time that the patient has been in the hos-

pital there has been a slight rise of temperature, 100° in the morning, 101° at night. The general condition has been extremely good. There are now a few small purely bullous lesions about the mouth, none on the rest of the face. The backs of the hands and wrists are not prominently affected now, and there are but a few pure bullæ, scattered irregularly over the body. On the back are a few pale red circles and segments of circles, slightly raised and erythematous in nature.

January 16th. The small erythematous, circinate and gyrate lesions of the back and shoulder, seen on January 7th, have persisted mostly without developing into bullæ. Some new bullæ have appeared, especially about the wrists, elbows and axillæ.

January 28th. During the last month there have been far fewer lesions than before. A few days ago new bullous lesions began to appear, especially of the back and arms, so that now rather more of the body is affected. The general condition has remained good, the chief complaint being of the difficulty in walking on account of the affection of the skin of the legs. While in the hospital there was very little pruritus.

Briefly stated, a mulatto boy of five was observed from time to time for a period of fifteen months, during which period he was hardly ever free from the eruption, and it had not disappeared when he was last seen. The eruption was characterized by vesicles and bullæ of varying sizes, which either arose from apparently normal skin, or in some places and at some times developed upon previously existing erythematous patches and circles. At one stage of the affection these erythematous areas did not in all instances eventuate in bullæ. At times there was a tendency to grouping about the mouth and ears, and, as a rule, the extensor aspects of wrists and ankles were prominently affected. There was eosinophilia, as demonstrated at two different periods, as well as a marked increase of eosinophiles in the serum from the bullæ. Attempts at cultures failed signally. The eruption was said to have begun one month after vaccination.

CASE V.—Charles B., six years, was admitted to the Children's Hospital, September 30, 1899. Family history and previous history good. He was vaccinated December 10, 1898, and very soon afterward (the exact time could not be learned, but it must have been in less than two weeks) crops of "water blisters" began to appear, and soon the larger part of the body was covered. On January 3, 1899, he was admitted to the City Hospital, where he remained until August 21. During this time crops of bullæ were appearing continually over the whole body. It was learned that about one month after entering the City Hospital his temperature began to rise and his pulse grew poor without evident

cause, and he was placed on the danger list. From this he recovered after ten days, and with the exception of the cutaneous lesions that were constantly appearing, he was in fair condition until April, when he had a slight broncho-pneumonia. When discharged from the City Hospital on August 21st he was in better condition than when he entered, but the bullæ had not ceased to appear.

On September 30, 1899, when he entered the Children's Hospital, nothing abnormal could be detected by physical examination of the chest and abdomen. The glands in the neck, axillæ and groins were enlarged and movable. The urine was normal. The skin of the neck, trunk and arms was covered with a grouped vesicular and bullous eruption. There were occasionally small vesicles to be seen, but on the whole the eruption was of a bullous character, some of the bullæ attaining a diameter of 2 centimeters. There were numerous clusters of bullæ on the neck, chin and forehead, a few of which had purulent contents, or had been converted into crusts. There were not many lesions on the trunk, but numerous hyperemic and slightly infiltrated patches marked the site of previous bullæ. The affection was especially marked on the thighs and genitals, while there were few lesions on the upper part of the lower leg. On the ankles and feet again there were very numerous and confluent bullæ and crusted patches. The lower arms and backs of the hands, especially at the roots of the fingers, were markedly affected. There were no lesions of the palms and soles. There was practically no itching.

October 7th. Condition better. The lesions of head and extremities have dried up considerably, and but few new ones have appeared. On the front of the trunk a few new, small bullæ have come from time to time.

Blood count with differential stain; 250 whites counted; polynuclear neutrophiles, 48 per cent.; basophiles, 30 per cent.; eosinophiles, 21 per cent. Cultures from the small beginning vesicles remained sterile.

October 11th. Fresh crops of bullæ have appeared in many different places. If the covering of the vesicles is removed, the surface is very tender and causes much discomfort. On parts of the body where there have been a great many repeated outbreaks of bullæ the skin is thickened slightly and hyperemic, but apart from this the eruption has no multiformity. There is no itching.

From October 6th to about October 15th there was an evening rise of temperature to 101° , and 103° (October 9th). The pulse was increased in frequency and there was malaise, but there were no definite symptoms to account for this rise in temperature and pulse. The morning remissions brought the temperature nearly to normal. After

October 15th the temperature was normal until October 23d, when there was another evening rise for a few days, after which it became normal again. It is noted that during this time there was a greater tendency for many of the bullæ to become purulent.

November 3d. At this time the general condition was much better, the legs and abdomen being quite clear. There were still numerous lesions appearing upon the head.

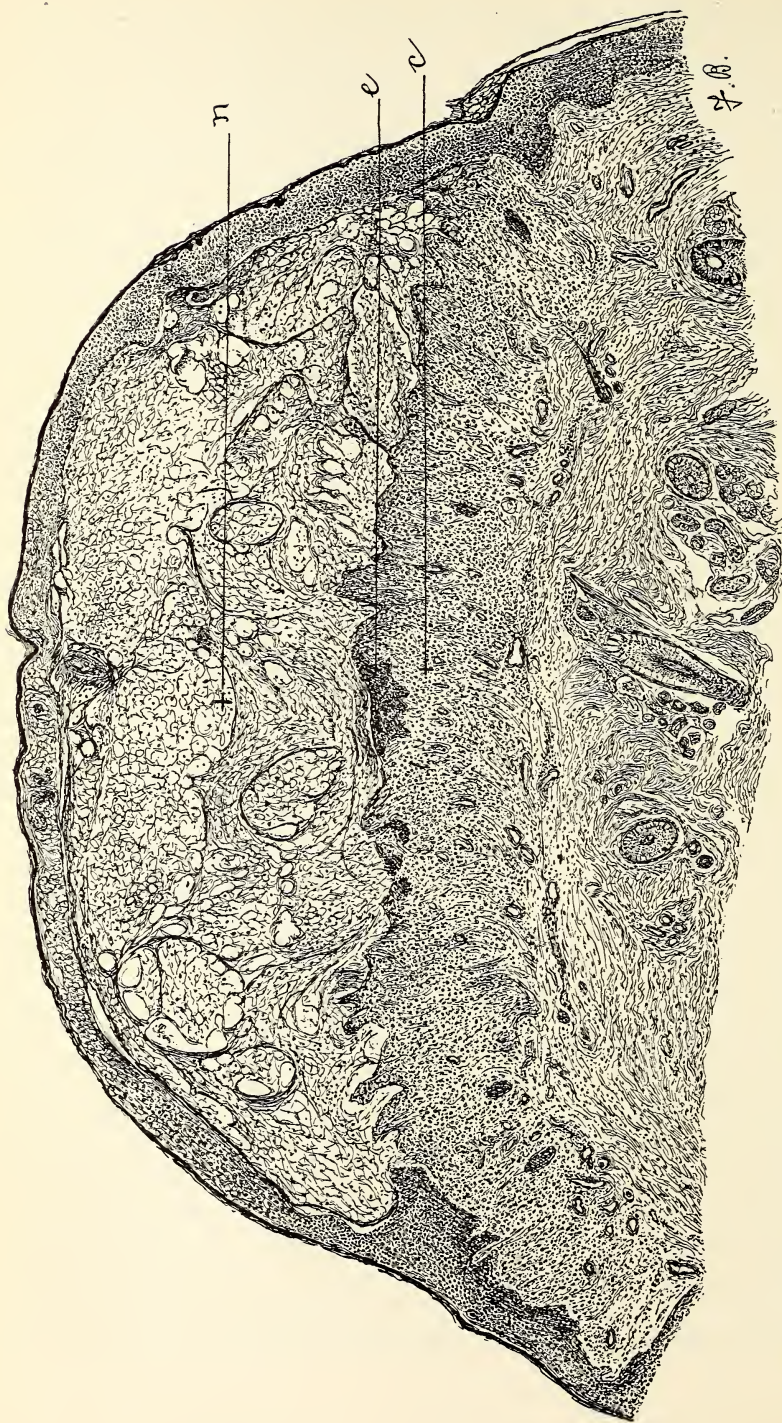
January 30, 1900. The patient was discharged. General condition good. The bullæ are still reappearing, but in fewer numbers, so that the discomfort is not very great.

It was learned that soon after leaving the hospital the eruption became more pronounced again, and the child was admitted to a city charitable institution.

February, 1901. During the last year there has been no period when the skin was entirely free from lesions. The condition has been much better than during the preceding year, however, and the child has been able to be out of doors during most of the time. The character of the eruption has not altered essentially, and has been characterized by bullæ without other appearances, and with no purulent complications. A bulla measuring about 1 cm. in diameter was excised from the front of the chest, hardened in Zenker's fluid and examined microscopically.

Microscopical examination of a bulla from Case V. The bulla was found to have its seat in the lower portion of the rete Malpighii. The roof of the bulla was formed by the unbroken horny layer, and in places by a few rows of rete cells in a more or less dropsical condition. The floor was formed by the papillary layer of the corium. The papillæ could usually be made out, distinctly separated from the bullæ, but in some places they were much elongated and distorted. In certain places the boundary line between the bulla and the papillary layer of the corium was not distinct, there being such an intense degree of edema and infiltration of the corium. In general it was evident that the fluid poured out from the distended vessels of the papillæ had broken through the epidermis and formed the bulla in the epidermis, just at the junction with the corium. In a very few places there were remains of the lower rete layers to be seen. This occurred where a follicle had lent a greater coherence to the cells. There was a marked proliferation of the epidermis at the sides of the bulla, the interpapillary prolongations extending downward for some distance into the corium. In them were to be seen a considerable number of eosinophilic cells. The interior of the bulla was seen to be made up of a network formed from the remains of the epithelial cells that had been invaded by the

FIG. 2.



n Network in the Rete, Containing Fibrin and Leucocytes, Many of Them Eosinophilic.

c Cell Exudate in the Papillary Layer Composed Chiefly of Eosinophiles.

e Remains of the Lower Epithelial Layers. Bulla from Case V.

exudation. In this network there was a large amount of fibrin and great numbers of eosinophilic cells, with one, two, and rarely three, nuclei. There were a very few mono- and polynucleated cells that did not contain eosinophilic granules, the exudation being made up almost entirely of eosinophilic cells. Eosinophilic cells could also be found in small numbers scattered through the horny layer forming the roof of the bulla, and in the epidermis at the side of the lesion.

In the corium, serial sections showed in all parts a very marked enlargement of the blood and lymph vessels, especially those of the papillary layer. Many of the blood vessels were filled with red blood corpuscles, or retained a layer of them at their wall. There was a marked edema of the whole papillary layer, the connective tissue bundles being separated by spaces in which fibrin could frequently be seen. In the papillary layer there was a considerable cell infiltration situated about the dilated vessels and in the interstices of the edematous tissue. Upon examination a very large number of these cells proved to be eosinophiles. The granules were rather small in size, but distinctly marked. Some of the cells contained one nucleus, others two or more. There were also small mononucleated cells of the type of lymphocytes, but they were far fewer in numbers than the eosinophilic cells. Polynuclear leucocytes which contained no eosinophilic granules were not observed. There was a decided increase in the numbers of the endothelial cells. In the middle layer of the corium there were some dilated vessels and surrounding cell exudation, but these appearances were very slight as compared with those in the papillary layer. By serial sections it could be shown that the dilated vessels and cell exudation extended out on either side beyond the limits of the bulla. The glands and follicles appeared to be normal. No micro-organisms could be differentiated.

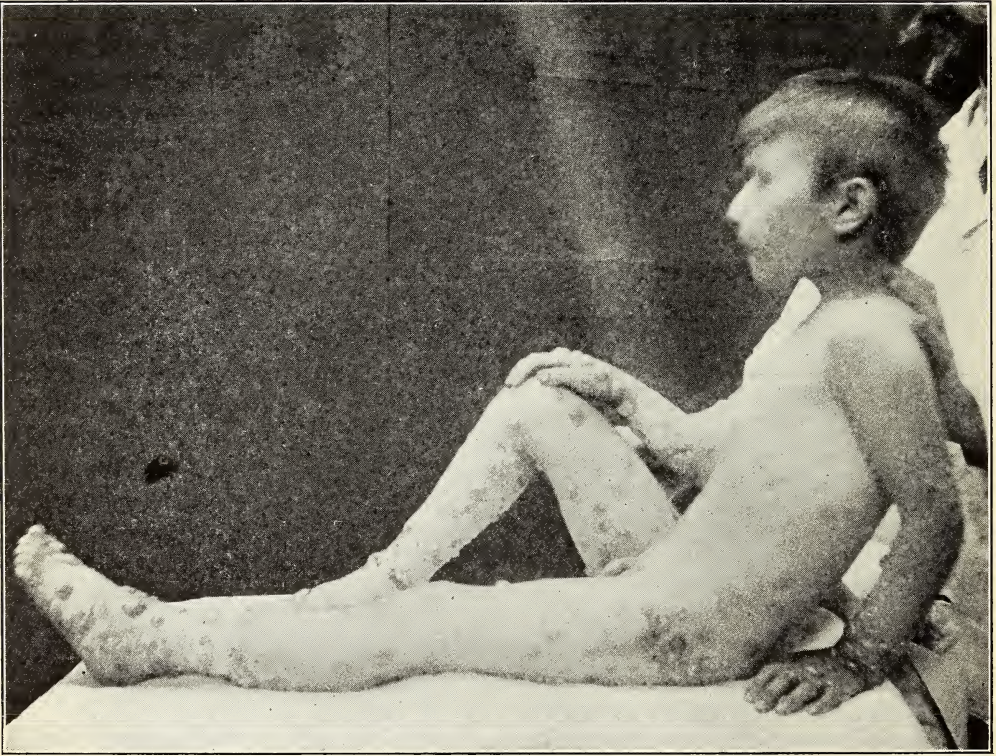
Briefly summed up, a boy of six, vaccinated in December, 1898. In less than two weeks after vaccination a bullous eruption made its appearance, that has constantly persisted to some extent up to the present time, May, 1901, a period of nearly two years and a half. There have been intervals of improvement, followed by periods of intense outbreaks. At times the whole body has been pretty thickly covered, at other times the lesions on the trunk have cleared up, leaving the forearms and wrists, together with the legs and feet, the parts most prominently affected, with clustered lesions. The eruption at times became purulent.

CASE VI.—William M., six years, born in America, of German parentage. He had had no previous illnesses, with the exception of diphtheria, and nothing of importance could be elicited as to family history.

Five weeks previously he had been vaccinated by a respectable practitioner, who had at the same time, and with lymph from the same source, vaccinated a younger brother of the patient. The vaccination in the case of the younger brother had followed the usual course, with no after symptoms.

The boy was brought to the hospital on June 29, 1900, with the statement that the vaccination had been performed five weeks pre-

FIG. 3



Case VI.

viously. He was somewhat pale, and the tongue was slightly coated. Temperature normal, and nothing abnormal was found on physical examination of chest and abdomen. The urine and blood were not examined, as it was expected the patient would return the next day for admission to the hospital. On the left arm were seen the marks of vaccination, flaccid vesicular and lacerated lesions, covered mostly with a crust, and without especial induration, or inflammation at the

periphery. According to the statement of the parent, the present eruption began one week ago, or four weeks after the vaccination, being first noticed upon the thighs, but rapidly making its appearance on the upper arms. When seen the eruption was most marked on the arms and legs, affecting the extensor surfaces more widely than the flexors. In these situations is seen a purely vesicular and bullous eruption. There are many small vesicles which the parent states are the first appearances seen, which may remain as they are or increase to form bullæ of varying size. All sizes of vesicles and bullæ were to be seen, from the small beginning vesicle to bullæ from $2\frac{1}{2}$ to 3 centimeters in diameter, some of which projected 1 centimeter above the level of the skin. The latter were often very tense and were filled either with clear serum or with a hemorrhagic exudation. There were very many of these bullæ with hemorrhagic contents in this case. There was no surrounding redness or infiltration. The backs of the hands and wrists were very markedly affected, being covered with closely aggregated large and small bullæ. There was some tendency to a grouping of the lesions, but this could not be said to be a marked feature. On the whole the points of greatest implication were the hands and forearms and the lower legs. On the thighs and especially the lower legs there were numerous very large bullæ, some of them hemorrhagic. In many of them the central covering had collapsed, and this depressed center was surrounded by a ring of fluid which seemed to be extending peripherally. There were numerous superficial crusting lesions interspersed with the more recent manifestations. On the buttocks were large areas denuded of epidermis and weeping, the seat of previous lesions which had collapsed or been broken by force, so that sitting was very painful.

The head and face were not affected, with the exception of the left angle of the mouth, where there was a reddened, slightly crusted area, the seat of past vesiculation.

The trunk also was comparatively free, as contrasted with the extremities. There were perhaps a dozen small lesions scattered over the front and back of the trunk. In this situation they did not seem to progress beyond the small vesicular stage. On the penis there were the crusted remains of lesions.

There were no lesions on the visible mucous membranes. There was no itching, and there were no other subjective symptoms, so far as could be made out, except the discomfort and soreness produced by the wide distribution of the lesions, especially those of the buttocks.

Unfortunately this case could not be further followed and studied, as the patient was not brought back to the hospital as promised.

In February, 1901, it was learned that the patient continued for five months in about the same state, and that afterward the eruption did not cover so much of the body, but would appear first in one spot and then in another. "The wrists and ankles were the worst." At that time there were but a few scattered lesions appearing.

In this instance a boy of six developed, four weeks after vaccination, a purely vesicular and bullous eruption, most marked upon the wrists, forearms and ankles. For five months the lesions continued to appear in considerable numbers. Nine months after the beginning of the affection it was learned that there were but a few lesions present, and the condition was greatly improved. There had not, however, during the nine months been a period when the skin was wholly free from the eruption.

With regard to the *significance of the vaccination*. If the observations are correct, in three of the cases the eruption appeared within two weeks after vaccination, in one within a week, while in Cases IV. and VI. it did not show itself until after the lapse of a month.

It must be emphasized at the outset that we have no positive proof that these cases were caused or in any way influenced by the vaccination. This proposition becomes stronger when one remembers the wide prevalence of vaccination, the small number of cases of this nature following vaccination, yet observed, and the ease with which one may be drawn into a post ergo propter hoc position. And yet the possible effect of the vaccination can certainly not be eliminated or brushed hastily aside. There can be no doubt that recurrent bullous dermatoses are very uncommon, especially in children of the age of those described in this paper, and this fact lends greater probability to the assumption of an etiological relationship between the two occurrences.

Support would be given to this assumption if other similar cases could be collected. Dyer¹ has reported two cases of dermatitis herpetiformis following vaccination, one that of a boy of seven, who developed three weeks after vaccination a grouped vesicular and bullous eruption, with recurrent outbreaks. There were groups of vesicles on the chin, arms, legs, penis, and interscapular region, and some of the patches were circinate and serpiginous in form. It has been in existence for eight months. There was not much pruritus. The second case² was that of a negro of thirty-four who developed a symmetrical, grouped, vesicular and bullous eruption a few weeks after vaccination. Pusey has reported a case of dermatitis herpetiformis following vaccination in a girl of twelve, in whom the disease recurred constantly for four and a

¹St. Louis Medical Gazette, 1898.

²New Orleans Med. and Surg. Journal, 1896.

half years. The eruption was vesicular and bullous, but there were besides erythematous and pigmented patches, with some tendency to grouping. The eruption was most marked on the face, arms, hands, axillary spaces, the feet and ankles, the groins and about the genitals. There was a good deal of tingling and burning pain associated with the lesions, but there was no real itching.¹

I have a few notes of a case of bullous dermatitis observed in 1894, that may be properly mentioned here, although insufficiently studied. It was that of a strong, robust man of twenty-three, who had developed the eruption after vaccination (the length of time is not recorded) and had had it when seen for six weeks. All parts of the body were affected, the lesions consisting of groups of vesicles and bullæ surrounded by a bright red ring, and not pruritic.

Jonathan Hutchinson a good many years ago published some cases entitled "varicella prurigo" and "vaccinia prurigo," of which twelve followed vaccination and sixteen followed varicella. Later, he published a case of vaccinia prurigo persisting for twelve years, with increasing severity. In all of these case, as his name prurigo implies, there was severe itching. There may possibly be some etiological relationship between these cases of Hutchinson's and those I have described.

In view, therefore, of the possibility that the vaccination was the exciting cause of these affections, one of the first enquiries would be as to the source of the lymph and the method of vaccination. It was not possible to obtain this information in all of the cases. The children, as a rule, belonged to the lower classes, and in two or three cases had been much neglected. As has been seen, the cases ranged over a period of five years, so that a common source of the virus can be safely excluded. The children were all observed in Boston, but came from various parts of the city and from the surrounding towns. In several of the cases, however, it has been possible to find the vaccinator, and in each instance he proved to be a reliable practitioner, who had obtained his lymph from an apparently trustworthy source, and who had vaccinated many others with lymph from the same source without unusual results. In Case VI. it will be noticed that a brother had been vaccinated at the same time and by the same operator, without any unusual complications resulting. Animal virus only is used, as far as known, in this community. It is also to be noted that in none of the cases were there any symptoms of intense local reaction to the lymph, nor signs of sepsis.

Before examining further the bearing that the vaccination may have had upon the development and cause of these cases, it may be

¹ JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES, 1897.

well to discuss their clinical and pathological features, and the relationship that they may bear to other known dermatoses.

Of the six cases here reported, five were boys and only one a girl. The ages were between five and ten years.

It was noticeable in all of the cases that the trunk was affected, but slightly as compared with other regions of the body, although in Case V. this was not so apparent at times of the greatest severity. The favorite seats of the eruption were about the mouth, nose and ears, the backs of the hands and wrists, the ankles and feet. These localities were very prominently affected in five of the cases.

Taken as a whole the cases presented a purely bullous and vesicular character, using these terms simply to express the large or small form of the eruption. Grouping was usually marked, especially upon the places of predilection, *i.e.*, about mouth, nose and ears, about the wrists and ankles. An erythematous element was present, noticeably in Case IV., during a certain period, when erythematous circles and disks made their appearance, especially upon the back, and these were in some instances transformed into bullæ, in other instances remained erythematous throughout. There was also an erythematous condition, combined with infiltration, observed in two of the cases, as a result evidently of the long continued recurrence of bullæ at the same spot. In Case II. a papillomatous element was also developed. This condition has been seen in other instances of bullous dermatitis, which we have not at present sufficient knowledge of, to determine whether they are to be classed with these cases or not. For example, Brocq¹ cites the case of a man of sixty-two, affected with an erythematous and vesicular eruption, who presented on the dorsal aspect of the feet special appearances, *i.e.*, old lesions forming irregular plaques of a papillomatous aspect, which were seen to be consecutive to bullous lesions. The floor of the plaques was covered with numerous acuminate papillomatous excrescences, closely aggregated and projecting at least 5 millimeters above the normal skin. Brocq remarks that this case called to mind pemphigus vegetans to a certain degree, but differed from it in the papillomata being localized on the lower extremities. The case is No. 27 in his collection of examples of dermatites polymorphe prurigineuse chronique (Dühring's disease).

Fordyce² reports, under the title "Dermatitis Herpetiformis Presenting Many of the Features of Impetigo Herpetiformis," the case of a man of sixty-seven, in whom there developed upon the legs below the knees, the lower half of the thighs and on the greater part of the

¹*Annales de Derm. et de Syph.*, 1888, p. 150.

²JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES, November, 1897.

forearms a confluent eruption of vesicles, papules and pustules, with a sero-purulent discharge; later there was a marked development of papillomata in the right axilla, and on the inner side of the arm, on the anterior and inner surface of both thighs, on the abdomen surrounding the umbilicus and on the suprapubic region. It is my belief that this papillomatous complication is produced by the constant recurrence of bullæ in the same place, and is analogous to the warty lesions so frequently seen in tuberculosis and syphilis, a result of chronic, long continued inflammation in a predisposed individual.

It is to be noted that in these six cases, itching was never a prominent feature, and was frequently completely absent. The sensations of heat and pain were present, but it has not seemed to me that they were greater than would be expected in any bullous dermatitis of like extent.

Examination of the blood and of the contents of the vesicles was practised in two of the cases. In Case IV. examinations of the blood at different times gave eosinophiles 18 per cent. and 13 per cent. respectively. In Case V. the eosinophilia was 21 per cent. In view of the frequency with which eosinophilia is found in almost all bullous affections, and that it was marked in the only two cases examined for it, it is a fair assumption that it was present in the other cases, inasmuch as it will scarcely be questioned that these six cases are to be classed together. Histological examination of the lesions was made in but one of the cases, the results of which have been described.

The chief features that these cases present in common and that lead to the conviction that they have a common etiology, are their occurrence in children after vaccination; their course, varying from several months to several years, or perhaps longer; their uniformly vesicular and bullous character, with only occasional evidences of multiformity; the usually almost complete exemption of the trunk; the characteristic grouping about the mouth, nose, ears, wrists, ankles and feet; and the very slight prominence of itching or other subjective symptoms beyond those common to any interference with the integrity of the skin.

In many respects these cases resemble dermatitis herpetiformis Duhring, and it is probable that some dermatologists would wish to see them placed under that title. But we are not by any means all agreed as yet to the limits of this affection; and while a step has been properly taken in the direction of attempting to separate certain types from the unscientific classification of pemphigus, ~~we~~ must be careful lest we include too much under the new term dermatitis herpetiformis. The recurrent course of these cases is a characteristic of dermatitis herpetiformis, and the vesicular and bullous character of the lesions

is not inconsistent with this diagnosis. On the other hand, we are not accustomed to regard the constant recurrence of such *uniform* lesions, in other words, so little multiformity in so many outbreaks in a number of cases, as common in dermatitis herpetiformis. The localization about the mouth and nose, on the backs of the hands, wrists and ankles has not been noted in dermatitis herpetiformis. The prominence of itching and sensitiveness of the skin has always been referred to in this disease, Brocq including the adjective "prurigineuse," modified later to "douloureuse," in his name for the affection. In the cases here reported these features were certainly almost lacking. It has been my own experience, however, that there are a good many cases in the adult that must unquestionably be classed as dermatitis herpetiformis where itching and painful sensations are very little marked, so that I should not be inclined to lay great stress on this symptom. Nor does it seem to me that the eosinophilia found in two of the cases, and the large numbers of eosinophilic cells found in the bullous lesion, should be entitled to much weight in differential diagnosis, in the present state of our knowledge of the elements of the blood. I cannot as yet accept Leredde's position, that "an affection where we find eosinophiles in the blood, and where all the vessels and all the bullæ with clear contents contain a large number of eosinophiles, is *maladie de Duhring*." For those who agree to this there would be good reason for regarding these cases as to be included under Duhring's disease. Eosinophilia has been found under such varied conditions that little weight should be attached to its presence until our knowledge has been further amplified. It is acknowledged to be present in at least a great many bullous dermatoses. Leredde regards Hallopeau's *pyodermite végétante*, Neumann's *pemphigus vegetans* and Duhring's disease, as all varieties of the same disease, because they show eosinophilia and elimination through the skin from the blood of eosinophiles; and he declares it for this reason to be a disease of the blood, of which the cause is unknown.

With regard to the histological characteristics, the single bullous lesion from Case V. that was examined is interesting in showing the enormous infiltration with eosinophilic cells. These cells were present in larger numbers and more exclusively than has been found, apparently, in the few examinations of the vesicles and bullæ in dermatitis herpetiformis that have been recorded. The position of the bulla was between epidermis and corium, the process evidently starting by an exudation from the papillary blood vessels, which spread itself out between epidermis and corium, invading chiefly the lower layers of the rete. Gilchrist's¹ examination of vesicles from a case of dermatitis

¹ Johns Hopkins Hospital Reports, No. 1.

herpetiformis, of the herpetiform and erythematous variety, showed the lesions to be situated entirely in the corium, the roof being formed by the epidermis, which was practically intact. In this respect his results agree with those of Unna, although the latter mentions signs of vesiculation in the epidermis also, as do Leredde and Perrin.

With regard to these cases that I have reported, I shall content myself with the hope that they may prove of some value, at some time, in throwing light upon the very obscure subject of bullous dermatoses. I have emphasized the fact that I cannot *prove* that they were caused or influenced by the vaccination, and for that reason I report them as *following* vaccination. The characteristics that they have in common are quite sufficient to stamp them as belonging to the same group. Whether or not this group belongs to an order from which it cannot be separated etiologically, is a subject for discussion. The close resemblance of these cases in many ways to dermatitis herpetiformis has been pointed out. In consideration, however, of the lack of unanimity that exists as to the proper limits of dermatitis herpetiformis, I may be permitted for the present to leave the question of relationship as an open one.

It has been shown that there is no ground for the assumption that there was an impurity of the vaccine in these cases. If we may regard the vaccination as having an etiological relationship with the eruption, while all is speculation, it is not improbable that a toxine developed by the vaccination in certain predisposed individuals is responsible for the cutaneous appearances; just as we may assume that pregnancy and parturition cause the production of a toxine that determines the eruption in herpes gestationis.

ON A CASE OF PARAKERATOSIS VARIEGATA.

By T. COLCOTT FOX, M.B., F.R.C.P.,

and

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London.

WITHIN recent years a number of cases of psoriasiform and lichen-like eruptions have been reported which do not conform to any of the ordinary recognized types. These cases have been chiefly observed on the Continent. A few months ago a case of this nature presented itself at the Skin Department of the Westminster Hospital, in which the appearances of the skin so strongly suggested the class of case which Unna has named Parakeratosis variegata, that we have been forced to regard it as another example of that rare form of dermatitis. Since this case is one of the first which has been recognized in London, we considered that a clinical and histological description of it, and a reference to the subject of these eruptions in general, might prove of interest and might be of some value in helping to reduce order out of the present chaos which surrounds the subject.

DESCRIPTION OF THE CASE.

Arthur P., aged 36, of medium height and spare build, a native of Newcastle, has been working in London for fifteen years as a compositor. He came to Westminster Hospital on November 7, 1900, suffering from a chronic, finely scaly, almost universal dermatitis.¹

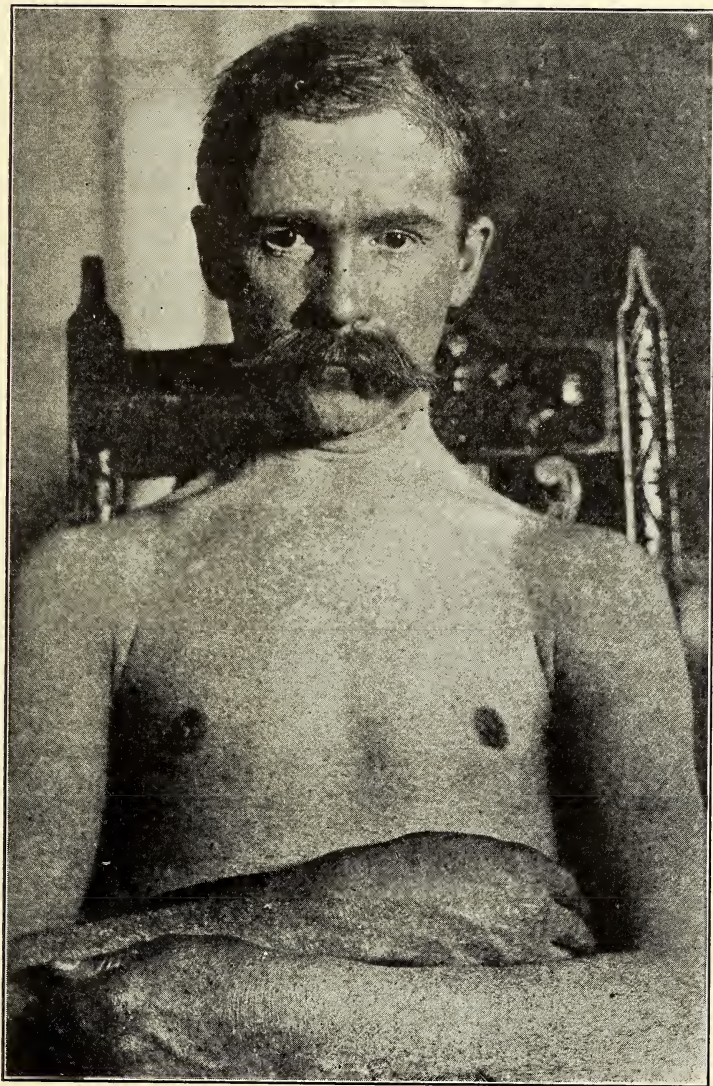
Family History.—The patient's father died at the age of 50 from a chill, and the mother died of "general decline." There were eight of a family, of which the patient was the youngest. There was no history of tuberculosis, nor of any form of skin disease, except in the patient's case.

Past Personal History.—The patient had measles when a child. During his boyhood he was particularly healthy, having had no ail-

¹ This case was shown by Dr. Colcott Fox at the Dermatological Society of London on November 14, 1900, and microscopical preparations from it were exhibited by Dr. MacLeod at the January meeting of the same Society (*vide Brit. Journ. of Dermat.*, 1900, pp. 6 and 53). The photograph of the patient was kindly taken for us by Dr. Whitfield.

ments which he can remember. Six years ago, while at work in London, he became infected with gonorrhea, which was rapidly cured. He has never been infected with syphilis.

FIG. 1.



History of His Skin Disease.—Five and a half years ago, in May, 1895, while the patient was busy at work he noticed that the skin of the lumbar region had become peculiarly dry and somewhat scaly.

The affected area was well circumscribed, and, according to the patient's statement, was covered with "a white crust," which made the patch feel raised above the level of the surrounding skin. The crust cracked readily from the friction of his clothes and tended to desquamate in fine powdery scales like a "white flour." When the crust came off in this manner it left the skin red and glossy, but without any tendency to bleed. The patient was not aware of the existence of the skin disease till the patch had reached the size of the palm of his hand. His attention was first attracted to it, not by any irritation or itching produced by it, but simply because when stooping at his work the affected skin felt stiff and tended to crack. A short time after this the patient was conscious that the palms of his hands had become affected in a somewhat similar manner. He noted that the skin there had become dry and hard, and, as he described it, "had become covered with a casement" which greatly interfered with his work of setting up type, making his hands stiff and difficult to open, and taking away the fine sense of touch which is so essential for a compositor. Cracks made their appearance in the thickened skin of the palms, but these did not bleed, nor did the skin feel itchy.

The affection of the back and palms had thus come on, according to the patient's story, rapidly, with no premonitory symptoms. In spite of the implication of his hands the patient was able to continue his occupation. This dry and scaly condition of the skin gradually spread from the back and the palms of the hands over other parts of the skin, until by the winter of 1895-96 the patient felt that he was "cased in all over with a hard, dry skin." He felt that the skin of his arms had become stiff and tight as if it was too small for the surface it had to cover, that the palms of his hands were hard and "like rock," and that his sense of touch was much dulled. The soles of his feet were hard and caked like the palms of the hands, and the skin of the whole body, with the exception of that of the face, was affected to a greater or less degree. The face was practically free with the exception of a slight scaliness about the eyelashes, and a dryness behind the ears. The scalp was scurfy, and the hair tended to fall out, but the nails were unaffected. The mucosa of the mouth did not seem to be implicated, and caused no subjective symptoms. The patient was frequently constipated at this time, but his general health was otherwise perfect. He noted that the scales were small and brittle and came off easily, except on palms and soles, leaving the skin red, but he also observed that redness of the skin invariably preceded the formation of scales. The patient at this time consulted a doctor, who diagnosed the condition as scleroderma, and treated him off and on for three years

with a brown mixture for the constipation, a white ointment to rub on, a special soap, and Turkish baths. The patient derived considerable benefit from the Turkish baths, and the cracking feeling disappeared from the skin of his back. He was, however, dissatisfied with his progress, and in consequence went to a hospital for skin diseases, where the affection was diagnosed as eczema, and treated for six months with no apparent benefit. Nine months ago he became an out-patient at another hospital for skin diseases, where the condition was diagnosed as eczema rubrum. A brownish-yellow ointment was prescribed, and thyroid tabloids to be taken, one each day for a month. The tabloids caused severe headache, with a tight sensation at the top of the head, and made the patient highly nervous; in consequence of these disagreeable symptoms the thyroid treatment had to be discontinued. The patient had also tar baths. He did not, according to his statement, improve to any appreciable extent, and he next sought advice at the Westminster Hospital.

Present Condition.—The patient looks fairly healthy. He eats and sleeps well. He has a glass of beer each day and an occasional whiskey "peg," but has never been intemperate. He is intelligent, active, and presents no neurotic symptoms. He is married, and has three healthy children. His general health is unexceptional. A physical examination of his chest reveals no abnormal signs, and his urine is that of a healthy man. The patient does not readily perspire. His whole skin, with the exception of that of his face, is more or less affected with a reddish mottled finely scaly dermatitis, which presents a characteristic appearance, but which it is almost impossible to describe adequately.

Trunk.—The skin of the trunk exhibits a yellowish-red mottling, produced by a hyperemia in the form of a patchy network enclosing areas of only slightly reddened skin. The meshes are comparatively regular in size, averaging 2 to 3 mm. in diameter, and are polygonal and irregular in shape. The hyperemic threads of the network average about 1 mm. in breadth, but are sometimes almost as broad as the meshes. Pressure with the dioscope reduces the hyperemia, but does not wholly obliterate the network. This is due to the fact that the network is produced by the coalescence of numerous reddish-yellow, occasionally brick-colored, macules or slightly raised papules covered with fine scales, and it is impossible to wholly obliterate these by the instrument. It reminds one of the retiform patterning which may be seen in erythema (Ephelis) ab igne on the shins, in copious eruptions of the macular syphilide, in the pigmentary syphilide of the neck, and on the limbs of fat babies exposed to cold. If to a retiform patterning such as these there be added a superficial inflammatory condition affect-

ing the meshwork but not the enclosed meshes, accompanied by the formation of macules, and flat papules covered with fine scales, the peculiar picture which this dermatitis presented might be suggested. On the back and abdomen it is more difficult to distinguish a network, and the mottling is far more irregular, coarser and more patchy than on the chest and about the shoulders. The degree of scaliness also varies considerably on the trunk, but is invariably less definite and far more insignificant than in psoriasis, nor does it evidence a tendency to be heaped up as in the latter disease, and the scales are rather more adherent.

Arms.—On the arms the color of the dermatitis is more vivid than on the trunk, and on the backs of the forearms and hands it has a slightly purplish tinge, due to the influence of a weak peripheral circulation and a venous congestion.

On the extensor aspect of the arms the network is coarser and more patchy, papular elements can more easily be found and the scaliness is more prominent.

These papules are angular in shape as a rule, flat-topped, and occasionally they are shiny and milky, so as to remind one of lichen planus papules.

The skin of the palms of the hands and also of the flexor aspect of the elbows is thickened and furrowed, presenting in the latter situation transverse grooves like those found in chronic eczema. The skin of the palms, though thickened and stiff, is not scaly.

The nails appeared to be perfectly healthy.

Legs.—The legs are affected with an efflorescence similar to that on the abdomen, but in the extensor aspects slightly raised papules can more easily be detected than on any other part of the skin. On the dorsa of the feet a fine desquamation is present, and the skin is not so red as elsewhere. The skin of the plantar aspects is slightly thickened and scaly. The penis is not affected.

Face.—The skin of the face is redder in color than is usual, but shows no mottling, papules, or scales.

The conjunctivæ are inflamed, but this is due to previous stoppage of a lachrymal duct and to a long standing conjunctivitis.

Scalp.—The scalp is scurfy, and presents a number of greasy crusts, but is not reddened.

Treatment.—The local treatment adopted since he has been under observation at Westminster Hospital has been simply dabbing the skin with ol. carbolatum (1 in 40), soda baths, rubbing on vaseline to keep down the tendency to scaling, and the application of a cream of glycerine of starch and zinc ointment to the palms of the hands where

the skin felt stiff and hot and was slightly thickened. Internally, however, thyroid powders were prescribed, and this time with no unpleasant symptoms, and he fancies that they had to some extent benefited him. We began with a 5 grain dose, twice daily, in last November, and increased it to 7 grains, three times daily, in January, and to 10 grains, three times daily, in May, 1901. He tolerated the thyroid treatment excellently, but we have been able to detect no very marked improvement. The efflorescence is certainly less vivid in color, but the scaling tendency persists and all the mottling and other characteristics are much *in statu quo*.

He stated that before he came to Westminster Hospital he had noted at periods remissions and exacerbations in the course of the disease. We have had him under observation now for six months, and up to the present we have been unable to certify to any definite remission, or to the appearance of further groups of fresh lesions, and have been struck by the persistent stereotyped characteristics of the case.

Synopsis of the Case.—(1) The patient was a healthy adult male, a compositor by trade, with a good family history, and no personal history of intemperance, tuberculosis, or syphilis.

(2) At the age of 31 a circumscribed red patch, covered with fine scales, appeared on the skin of the lumbar region, which caused no subjective symptoms, with the exception of cracking on bending.

(3) About the same time the skin of the palms became thickened and the sense of touch dulled.

(4) In six months the patient says he was "cased all over, except on the face, with a hard, dry skin."

(5) The face was not affected, the scalp was scurfy and the hair fell out to some extent, but the nails were healthy.

(6) This condition of the skin had persisted in spite of treatment with thyroid extract, tar baths, and other logical applications, for five years practically *in statu quo*, and the general health had not been interfered with.

(7) The efflorescence consisted of a hyperemic mottling in the form of a network, the threads of which were made up of macules and slightly raised papules covered with scales. There was an hyperkeratosis of the palms, and, to a less extent, of the soles.

Histological Examination.—The patient fortunately consented to have a biopsy performed, and for the purpose of examination a small, apparently fresh lesion was chosen. A very slightly raised papule, 4 mm. by 2 mm. in size, with an angular outline, was excised from the outer aspect of the right thigh of the patient. The papule before excision was reddish-violet in tinge, and presented a smooth surface with

a slight tendency to scaliness, chiefly at the margins; it was connected with similar lesions by the fine, reddish network, which is so characteristic of the disease. This lesion was chosen as it appeared to be the prevailing type of lesion, which resembled a very flat lichen planus papule surmounted by a fine scale. The excision was made sufficiently beyond the lesion to avoid damaging it in the process of removal.

The tissue was fixed and hardened in alcohol, imbedded and cut in paraffin, and stained by a number of methods to determine the changes which had taken place in the epidermis and the corium.

Figure 2 gives a fairly accurate representation of one of the sections, stained with borax methylene blue, as it appeared with a low

FIG. 2.

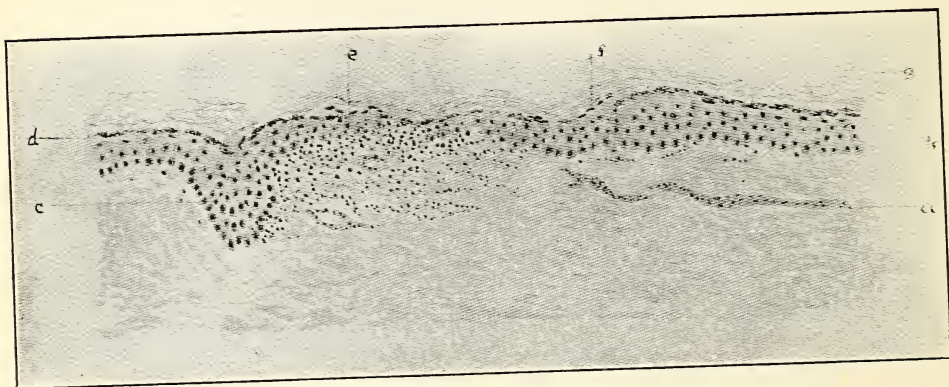


Figure 2.—Section of slightly raised papule, stained with borax-methylene blue. Leitz, Objective VI., Ocular 3. a. Dilated subepidermal blood-vessel. b. Flattened papillary layer. c. Edematous interpapillary process. d. Stratum granulosum only defective here and there. e. Infiltration of small cells, which appeared to be leucocytes. f. Persistent nuclei in cornified cells (parakeratosis). g. Desquamating horn lamellæ.

power. The central portion of the section corresponds to the papule; to the left of it there is little or no affection of the skin, but to the right there are evident changes. It will be noted at the outset that the central part instead of being slightly raised is slightly depressed, but this is easily explained by the fact that the raising was evidently due to an edema of the cutis immediately underlying the epidermis, which naturally disappeared after excision, and was not the result of a permanent hyperplasia of tissue elements.

Let us consider first the changes which occurred in the corium. There the most noticeable features were a dilatation of the sub-epidermal capillaries, an infiltration of small cells in the neighborhood of these dilated vessels, a rarefaction and edema of the fibrous bundles in

the neighborhood, and a flattening and almost complete disappearance of the papillary body.

The superficial capillaries alone were implicated, while those of the pars reticularis seemed perfectly healthy. The dilatation, though perfectly pronounced, was not nearly so excessive as in psoriasis, and suggested more closely the amount of dilatation which may be met with in a recent papule of seborrheic eczema. On examining the vessels with a high power one could detect no endothelial proliferation nor increase of the connective-tissue cells of the tunica externa. The change seemed to be a simple dilatation, such as might be produced by a stasis in the capillaries.

But around these dilated vessels there was a pronounced edema of the fibrous ströma. The spaces between the collagenous bundles were markedly dilated. The collagen itself seemed moist, mushy, structureless, and stained faintly, and was broken up here and there into fine fibers. It did not give the staining reactions suggestive of a basophilic degeneration. Only here and there in the affected area a connective tissue nucleus could be seen still adherent to its bundle. The elastin showed changes somewhat parallel with those of the collagen, but it seemed more resistant. It was soft, and instead of appearing after staining as dark brown well-defined wavy branching threads, it presented a fainter pinkish-brown tinge, was swollen, and more indefinite. The elastin did not give the reaction of elastin-degeneration, and probably the fluid bathing it prevented its staining well. Immediately beneath the subepidermal layer the collagen and elastin were healthy in structure and stained normally. Around the dilated capillaries and filling the rarefied edematous meshes of the fibrous stroma there was a rich infiltration of small cells.

In Figure 3 this infiltration is represented by a high power. It consisted of cells the size of lymphocytes, with here and there polynuclear cells; but the cells suggesting lymphocytes greatly predominated. No plasma-cells were found, and we did not observe a single mast-cell. It was impossible to be dogmatic about the nature of these cells when we remember that Unna has asserted that the cells precisely similar to the majority of these, which occur in psoriasis, are of connective tissue origin. Since, however, we were able to detect no proliferation of endothelium or extima of the blood vessels, but simply an edema and its consequences, we were inclined to regard the infiltration provisionally as mainly composed of leucocytes.

As we have already observed, the papillary layer was practically non-existent. In the sections the line between the epidermis and cutis was only slightly undulating. When we considered the amount of

edema present in the sub-epidermal layer, and also the edema and softness of the overlying epidermis, and the pressure which must have been exerted by the edematous papillæ on the soft and pliable epidermis, the explanation of this flattening became very apparent. But in our preparations there was more than a flattening of the papillary body;

FIG. 3.

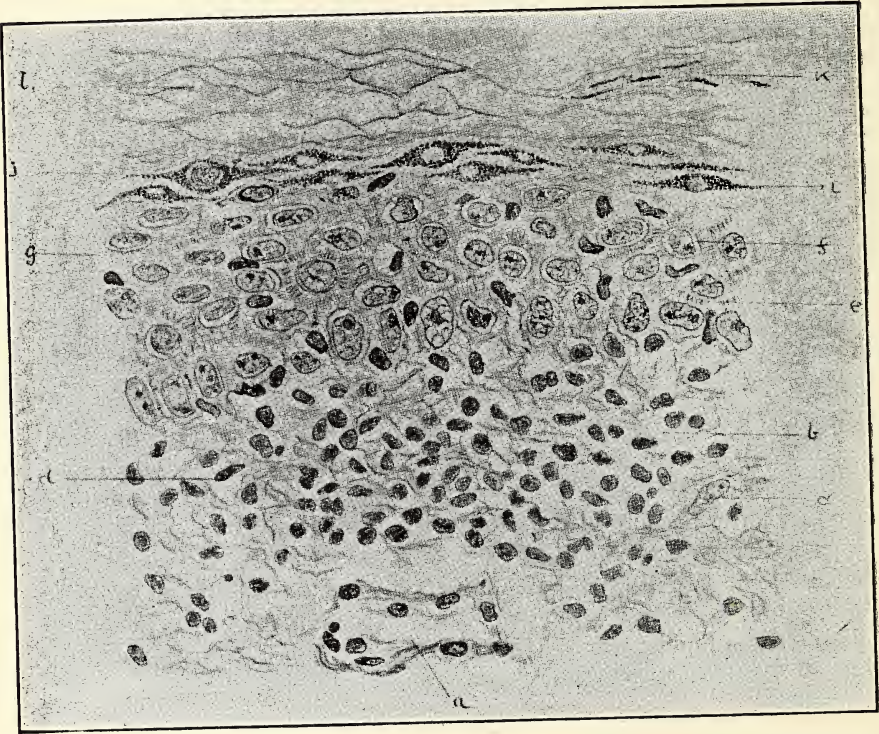


Figure 3.—Central portion of the above section more highly magnified. Leitz, oil immersion, $\frac{1}{2} \times$ Ocular 4. \times about 1,000. a. Dilated blood-vessel. b. Dilated lymph space. c. Connective-tissue cell. d. Leucocyte. e. Dilated interepithelial lymph channel. f. Epithelial nucleus lying in nuclear space. g. Leucocyte in nuclear space. h. Edematous prickle-cell. i. Granular layer. j. Edematous cell granular layer. k. Persisting nuclei in horn-cell. l. Desquamating horn-cell.

there was an edematous implication of the basal layer extending up through the epidermis, and in the papule itself the lower margin of the epidermis was so blurred that in places it was difficult to tell where the epidermis ended and the cutis began. This difficulty was greatly increased by the extension of the small-cell infiltration between the prickle-cells of the epidermis.

Changes in the Epidermis.—The stratum Malpighii over the cellu-

lar infiltration was definitely thinned. The basal layer was broken up by the advancing edema. The prickle-cells were swollen and stained faintly. In many of the cells the nuclear spaces were greatly dilated, and the nuclei appeared in some instances to be lying free in the dilated spaces.

Occasionally a leucocyte appeared in the space. In the cells where the spaces were large the protoplasm of the cell was distended and formed a thin ring round it, and this sometimes gave way to form a communication with the intercellular spaces, and hence the presence of the leucocyte in the former situation. For although the nuclear space appeared to be definitely circumscribed by a halo of protoplasm in the section, there was no reason for not presuming a connection with an interepithelial space in another plane. The nuclei themselves seemed much more resistant to the action of the edematous fluid than the cell-bodies. The chromatic network stained deeply, and the nuclear membrane and nucleoli were everywhere defined. Any shrinkage and irregularity of the nuclei might be reasonably explained by the process of hardening.

In one or two instances, the nuclei of cells of the basal layer, in spite of the edema affecting them, were evidently mitosing, and mitotic figures were detected. Considering the condition of the epidermis it was not considered necessary to excise another papule and fix specially in Flemming's solution for the detection of mitosing nuclei. But the fact of a mitosing nucleus being present in a markedly edematous basal layer showed the enormous degree of resistance possessed by the nuclei, and their great vitality. The interepithelial spaces were everywhere dilated and the prickles stretched, but here, again, the prickles seemed to be able to resist the degree of edema present and did not give way; consequently no intercellular vesicular formation occurred. In the dilated interepithelial spaces a number of leucocytes had made their way; these were squeezed into various shapes. We say leucocytes, in this connection, advisedly, because, though the interepithelial edema was considerable, it was insufficient to allow small connective tissue-cells, which did not possess the power of ameboid movement, to be washed in between the prickle-cells.

The condition of the granular layer was an important feature in the preparations; it was diminished in some situations, occasionally absent, but well defined elsewhere, and it was present over the center of the papule. The nuclear spaces of the granular cells were greatly swollen, like those of the prickle-cells, and the cells themselves were larger than usual, owing to the edema. We were struck by the fact that the granular layer had not completely disappeared over such an edematous Mal-

pighian layer. At first we were unable to detect any pronounced defect in the process of cornification, but since we reported the case we have in one or two other sections found a few cornified cells here and there in which the nuclei persisted (parakeratosis). But nowhere in our preparations have we found deficiency of cornification to be such a marked feature as to warrant the christening of our case a "parakeratosis." Where the granular layer was well preserved the stratum corneum, though showing a tendency to desquamate, was also well formed. We were not able to define a stratum lucidum. Doubtless the scaliness was due to a greater cohesion of more pliable soft horn-cells than is usual, and these, instead of drying and coming off singly, adhered and desquamated in lamellæ. Where the stratum granulosum was non-existent, as in Fig. 2 f, the overlying horn-cells were imperfectly cornified and preserved the remains of their nuclei.

The histological appearances presented by the horn-cells in section were verified by staining the individual cells after maceration in hydrogen peroxide.¹ The horn-cells were found to be much swollen, extremely difficult to separate by maceration, the prickles in some of the cells were less shrunken than is usual, and in a number of the cells the remains of nuclei could be detected.

Summary of the Histological Changes.—(1) Dilatation of the sub-epidermal capillaries.

- (2) Flattening of the papillary body.
- (3) Edema affecting the fibrous stroma near the dilated vessels.
- (4) Edema and rarefaction of the collagen; stains badly.
- (5) Elastin does not stain well.
- (6) Infiltration of small cells like lymphocytes with a few polynuclear leucocytes among them. Neither plasma-cells nor mast-cells found.
- (7) Thinning of the overlying epidermis.
- (8) Interepithelial edema and presence of leucocytes.
- (9) Dilatation of the nuclear spaces.
- (10) Edema of the granular cells, occasional absence of them.
- (11) No stratum lucidum detected.
- (12) Stratum corneum showing tendency to desquamate.
- (13) Only here and there could imperfectly cornified cells be found retaining nuclear remains.
- (14) Where these latter cells were present the granular layer was deficient.

¹For a description of the above method, *vide Brit. Jour. of Dermat.*, 1899, Vol. XI., p. 157.

THE NAME "PARAKERATOSIS VARIEGATA" (UNNA).

To appreciate the significance of this name as applied to the dermatitis we have here described it will be necessary to consider briefly the meaning of the term "parakeratosis."

Auspitz, as far as we know, was the first to employ the word parakeratosis, using it as practically synonymous with keratolysis.

According to Auspitz it was meant to signify an imperfect type of cornification, a paratypical keratosis, in which there was a tendency to a scaly formation. Under the heading "Parakeratoses" he included lichen ruber and planus, and psoriasis.

Unna in his histopathology adopted the name "parakeratosis," and in his description of eczema gives a careful definition of the process. He stated that parakeratosis was an imperfect cornification associated with a parenchymatous edema of the prickle-cells, a deficiency in the separation of keratohyalin in the transitional layer, in which keratohyalin granules were either particularly fine or wholly absent, and the formation of moist pliable horn-cells containing little fat, and having well preserved nuclei, and owing to their moistness being less easily separated and less brittle than normally, and so adhering together to form scales or lamellæ. It is an "abnormally simple cornification" in which intermediate stages do not occur, and in which, though the cell-wall becomes hardened, the cell-contents remain moister and better preserved than in normal horn-cells.

According to this definition our case can hardly be regarded as a parakeratosis, for it was only here and there that we found an absence of the granular layer and persistent nuclei, while in many sections keratohyalin was abundantly present, and the lower cells, although presenting a scaly tendency, doubtless due to a certain degree of moisture, did not, as a rule, show persistent nuclei.

Unna, however, has employed the term in a wider sense, and in his article, from which we have already quoted, he uses the name "parakeratoses" to signify the "dry catarrhs of the epidermis," which were the superficial inflammatory processes affecting the epidermis and characterized clinically by scaliness.

He included under the heading "Parakeratoses" seborrhoic catarrhs, pityriasis capitis, psoriasis, pityriasis rubra pilaris (Devergie), pityriasis rubra (Hebra), pityriasis rosea (Gibert), ichthyosis, trichophytia corporis and capitis, and parakeratosis variegata. In this wider sense the name is applicable to our case.

The qualifying adjective "variegata" is suggested by the curious marbling produced by the erythematous-maculated network with its en-

closed areas of healthy skin, and by the marked variation in the color of the lesions in different situations, from yellow-red on the upper part of the trunk to violaceous on the hands and feet, due, in great measure, to the influence of the circulation.

Dr. Radcliffe Crocker has suggested the name "lichen variegatus" in preference to the one we have employed. It has one decided advantage, namely, it suggests clinical appearances alone, and does not require an elaborate histological definition before it can be generally understood. Unfortunately for Radcliffe Crocker's name the initial lesion is not always a papule, and in many positions, if not in the majority, it never seems to rise above the macular stage surmounted by a fine scale. Neither names are peculiarly happy, and in view of the overabundant nomenclature of dermatology we shrink from competing, and prefer to leave the original title alone.

SHORT SUMMARIES OF THE CASES OF PARAKERATOSIS VARIEGATA ALREADY REPORTED.

The two cases described by Unna, Santi, and Pollitzer in 1900.¹

It is of considerable importance to summarize briefly these two cases, as it was in connection with them that the name parakeratosis variegata was first employed.

CASE I.—The patient was a robust man, aged 33 years. Four years before he was acutely attacked by a peculiar dermatitis, which came out first on the breast, neck, and back, spread to the extremities, was steadily progressive, and when he presented himself for examination covered the whole skin, with the exception of that of the palms of the hands, soles of the feet, and the head. His tongue was from time to time covered with a white fur, but his general health was in no wise impaired during the course of the dermatitis. The disease was chronic in its progress, subject to spontaneous exacerbations, intensified by excessive heat and excessive cold, but not accompanied by any marked subjective symptoms.

The dermatitis presented the following clinical appearances: The greater part of the skin presented a general red appearance, which became darker and more livid towards the hands and feet. On closer inspection the redness was found not to be universal, but to be in the form of a meshwork enclosing areas of normal colored skin. On the trunk and upper extremities these sound patches varied from a pfennig to a mark in size, and were round or irregular in shape. The sound

¹ *Monats. f. prakt. Dermat.*, 1890, Vol. X., pp. 405 and 444.

areas also had the appearance of being depressed, as the reddened meshwork was more or less raised. The degree of redness of the meshwork varied considerably. On the lower part of the neck, breast, and back, it was of a yellowish or a rosy tinge. On the abdomen it was distinctly deeper red; on the legs, forearms, backs of hands and feet it was more bluish-red. The red meshwork was found to be made up of papules with a flat surface and covered by fine, easily separable, white or transparent scales. On removing the scales the surface of the papules was shiny. In the gluteal region, lower extremities, and forearms, the red meshwork was considerably infiltrated and raised, owing to the papules being connected with one another. The effect of the sound areas enclosed by the red meshwork was to give the skin a marbled appearance.

Treatment.—Mild preparations, such as resorcin and sulphur, had no curative effect on the dermatitis. Strong chrysarobin and pyrogallol gave much better results, but even with them the affected skin was much more resistant than it is in either psoriasis or eczema, and it could in this instance withstand stronger chrysarobin ointments without causing greater discomfort than can be borne in psoriasis.

Histology.—A papule was excised from the left forearm, and on examination revealed the following microscopical changes:

(1) *Epidermis*.—The epidermis was slightly thickened. The prickle-cells were enlarged and the interepithelial lymph channels were dilated, especially towards the basal layer, but here and there broad spaces extended up as high as the middle of the prickle layer. A few of the cells of the basal layer presented dilated nuclear spaces. The mitotic figures were not increased. Very few leucocytes were observed between the epithelial cells. The granular layer was well formed, and consisted usually of two rows of cells. The horny layer was thickened and stretched.

(2) *Corium*.—The papillary layer was the only portion of the corium affected. The border line between the papillæ and the epidermis was less sharp than normally. The horizontal blood capillaries were dilated, and there was an edema of the neighboring cutis. A cellular infiltration was present around the dilated capillaries and in the edematous papillæ. This consisted of small mononuclear cells, which the authors considered to be of connective tissue origin. They were similar to the small cells which occur in any chronic inflammation, and were not believed to be leucocytes. The sweat coils, hair follicles, and arrectores pili were normal.

CASE II.—The patient was a healthy artisan, aged 27 years, and when he presented himself for examination the dermatitis was almost

universal. It began seven years before on the breast, and spread over the trunk and extremities, but avoided the neck, hands, and feet. The face was sunburnt and scaly, and there was slight pityriasis of the scalp. The dermatitis was itchy in dry weather. The whole skin, with the exception of that of the head, hands, and feet, presented a marbled or yellowish-gray to reddish-blue tinge. Like the previous case there was a differentiation into a reddened meshwork enclosing areas of normally tinted skin, which gave to the skin a variegated appearance. The sound areas varied in size from a pea to a linseed, and the essential lesions of the diseased network were flat papules, roundish in shape, over which the horny layer was stretched and glossy. There was no very marked scaliness over some of them, while it was an evident feature of others. On the upper part of the trunk the skin was grayish-yellow in tinge and very scaly, while on the lower part and on the arms it was red, and on the forearm it had a more bluish hue. At the border of the hair on the forehead there was a diffuse red scaly stripe.

Treatment.—Under tar ointments and strong chrysarobin, the dermatitis became less diffuse, and after three weeks resolved into isolated and grouped papules. These papules differed from the papules of lichen planus, in being more rose red and having less sharp borders. Like as in the former patient, the diseased skin reacted very little to strong chrysarobin and never even became markedly red.

Histology.—A linseed sized papule removed from the right upper arm, gave the following microscopical appearances:

(1) The epidermis was thickened, the prickle-cells large, and the interepithelial spaces dilated. The central protoplasm around the nuclei was faintly stained, but the peripheral border stained well. The nuclei frequently lay in a space. Large numbers of leucocytes were present between the prickle-cells. The stratum granulosum was present and two rows of clear horny cells, which blackened with osmic acid, represented the horny layer. The papillary and subpapillary layers of the cutis were affected, the remainder of the cutis was free. In the former the vessels were dilated, edema was present, and the lymphatics greatly distended. Surrounding the dilated vessels there was a rich infiltration of cells derived from the connective tissues.

Short Summary of Features Common to Both Cases of Unna, Santi, and Pollitzer.

(1) Both cases occurred in young, healthy, well-built men, with no hereditary taint.

(2) In neither case were there any nervous disturbances present, such as are commonly met with in lichen planus.

(3) The dermatitis in both was of a chronic nature, and subject to spontaneous exacerbations and remissions.

(4) In both it affected first the breast, then the neck, abdomen, back, and finally reached the hands and feet.

(5) The efflorescence had a marbled appearance, caused by a diseased meshwork enclosing areas of sound skin. On the forearms, backs of hands and legs, it had the variegated, congested appearance of "livedo annularis."

(6) The essential lesions were flat papules, over which the horny layer was either stretched, as in lichen planus, or was in the form of a scale.

(7) The color of the scale-free papules was yellowish-red on the upper parts of the body, and bluish-red on the extremities. Changes in temperature had a marked influence on the color.

(8) The infiltration of the diseased meshwork was slight, and in some places absent.

(9) There were no marked subjective symptoms unless with extreme temperature, when it became itchy.

(10) Both were difficult to treat and peculiarly resistant to strong reducing agents.

(11) The main histological changes were identical in both.

(a) The papillary and subpapillary layers were alone affected, and presented dilated vessels, edema, cellular infiltration, and a few leucocytes.

(b) Inter- and intra-epithelial edema and thickening of the prickly layers were present, but no increase in mitoses. Only a few leucocytes occurred in the epidermis.

The stratum granulosum was present, and the horny layer slightly thickened.

Cases of Doubtful Parakeratosis Variegata Exhibited by Dr. Allan Jamieson.

Dr. Allan Jamieson, at the meeting of the British Medical Association in Edinburgh in 1898, presented three cases for diagnosis which were regarded by several of the members present as examples of "parakeratosis variegata." The following notes of the cases are abstracted from the report of the proceedings in the *British Journal of Dermatology* (September, 1898):

CASE I.—A man, aged 47, had suffered from the affection for eight years. He presented the appearance of an "homme rouge." The es-

sential lesions were papules which, clinically and microscopically, were identical with those of lichen planus. The disease was universal, involved the face, and resulted in complete baldness of the scalp. Remarkable atrophy of the skin, in patches and bands of a dark red color, was a characteristic feature.

CASES II. AND III.—The other patients were men, aged 55 and 32, who had suffered for thirty and four years respectively. In the last case the lesions were indeterminately lichenoid, but even here the atrophy of the skin was prominent. The second case was intermediate in severity between the other two, but conclusively formed a connecting link between them.

In the discussion which these peculiar cases elicited, Drs. Jamieson and McCall Anderson classified them as anomalous cases of lichen ruber planus. Mr. Morris and Dr. Radcliffe Crocker suggested the possibility of their being examples of a premycotic condition. Dr. Unna, however, identified the cases as excellent examples of "parakeratosis variegata," and demonstrated their complete difference, both clinically and pathologically, from all forms of lichen. Professor Boeck had seen several cases similar to these in his own practice, and had described the disease as "dermatitis variegata."

In a letter we had from Dr. Jamieson (February 28, 1901) he says: "The worst case was for a time in my ward, and he developed tumors like those of mycosis fungoides on his face and body. I have not heard of him for some time. The other two cases, one of which was certainly the same disease, I have not seen nor heard of since. You may remember that there were three grades, and the intermediate one I claimed for the link between 'parakeratosis variegata' and lichen planus. I am still inclined to regard them as all belonging to the same category, and have so described the disease in the article on lichen in the 'Encyclopædia Medica.' I met long since with another case in a woman, and I have a drawing of it. It was quite a typical one, but the doctor who brought her to me cannot tell me what became of her."

*Two Cases Presented at the Dermatological Society of London by
Dr. Radcliffe Crocker.*

It will only be necessary to briefly refer to these two cases of lichen variegatus, as Dr. Radcliffe Crocker preferred to name them, as they have been fully reported on pages 19 and 55 of the *Brit. Journ. of Dermat.* for this year. They were certainly genuine examples of the disease.

CASE I.—The patient was a man aged 23. The efflorescence on the trunk was mottled, with a tendency to a circinate arrangement of "slightly raised pale purplish pin's-head papules," none of which were scaly. On the arms it was more reticulate, and on the forearms it was exactly like an ill-developed lichen planus. "On the cheeks there was a general ill-defined red papular eruption." It was subject to exacerbations, and was worse in winter than in summer, and it itched slightly at night.

CASE II.—"The patient was a ship's engineer, aged 32, subject to great vicissitudes of temperature." The efflorescence was generally distributed, but was very slight on the face, dorsum of the hands, and was absent on the palms. It had a variegated reticulate appearance due to the presence of small areas of healthy skin remaining even where the dermatitis was most abundant. On the arms some of the lesions were exactly like lichen planus. The trunk was pale red, and the limbs presented a purplish tinge with a fine powdery scaliness. Like the previous case, the dermatitis is subject to exacerbations, and is worse in cold weather, but also was prominent after a hot bath, or when he went into the furnace-room. The mucous membranes were affected in neither of these cases.

For an illustration, in which the features of our case are reproduced in a striking manner, we might refer our readers to Plate XIII. of Tilbury Fox's "Atlas of Skin Diseases," 1877. It was drawn from a Baretta model placed by Erasmus Wilson in the Museum of the Royal College of Surgeons, and the original is in the Museum of the Hôpital St. Louis, labelled "*Lichen ruber—Tronc., Lailler, 1871.*" The patient was under the care of Laillèr, who termed the affection "pityriasis rubra." E. Wilson ("Lectures on Dermatology," p. 63, 1873) designates it as a *lichen planus retiformis*. In the "Descriptive Catalogue of the Dermatological Collection (Models and Casts) Contained in the Museum of the Royal College of Surgeons," 3rd Ed., 1895, the model is numbered 88, and named *Lichen planus, var. Retiformis*. The editors say: "It is difficult to see on what ground Erasmus Wilson considered this to be *lichen planus*; it seems more probable that Laillèr under whose care the patient was treated, was right in regarding it as a variety of 'pityriasis rubra.' Dr. Radcliffe Crocker has since pointed out to us that the case was certainly '*Parakeratosis variegata*.'"

SHORT SUMMARIES OF ANOMALOUS CASES PRESENTING FEATURES OF CONSIDERABLE SIMILARITY TO THE CASES OF "*PARAKERATOSIS VARIEGATA*" WHICH WE HAVE REPORTED.

Brocq, in 1897, described in the *Revue Générale de Clinique et de*

Thérapeutique a case of this nature under the heading of "*Erythrodermie Pityriasique en Plaques Disseminées*," which he believed to have many features in common with the parakeratosis variegata of Unna.

Brocq's case occurred in an old woman of 60, who had suffered from the dermatitis for fifteen years. The dermatitis took the form of spots, which he compared to those of a leopard. These spots were pale rose red, of from 2 to 6 cm. in diameter, and were covered with fine scales. The face was not affected. The disease was always worse in winter and remitted in summer.

James C. White, of Boston, has also reported a case of Brocq's *Erythrodermie Pityriasique en Plaques Disseminées*.¹

The patient was a robust Irishman, aged 38 years. The disease began twelve years before, and appeared every autumn and winter, disappearing from April till the succeeding autumn. On the face and neck bright red, irregularly roundish patches of about 1½ to 2 inches in diameter presented themselves. These were smooth on the surface, not elevated, and only slightly scaly. On the trunk much coarser light brown patches came out. The latter were never infiltrated. Dandruff was present on the scalp.

On histological examination the stratum corneum was found to be thin and lamellated, the transitional layers were absent, the basal layer of the epidermis was to a great extent absent. The prickle layer was edematous. In the cutis an infiltration of lymphocytes and mast-cells was present around the vessels. No plasma-cells were detected.

Another case was reported by White (*ibid.*), in which the clinical appearances were strikingly similar to those of the above case:

The patient was a fireman, aged 26 years. He noticed two years before, in the summer, numerous small macules on the skin of the body, which itched at nights. The lesions were scaly, and on scratching them small dry scales fell off. Dandruff and falling of the hair existed on the scalp. The face was not affected. The trunk was most involved, and presented a number of irregular, but defined, erythematous patches varying in diameter from 1 to 6 inches, and covered with fine grayish-white scales, which could be removed forcibly without causing bleeding. "To the sight, but not to the touch, there was in some of the areas a possible suggestion of papulation, and in other lesions we noted an accentuation of the cleavage of the skin, which increased proportionately with the desquamation." The lesions varied in color from delicate pink to *café au lait*. "On the right flank there was a peculiar condition consisting of an island of apparently normal skin in the center of a large area of disease." Similar lesions to those on the abdomen,

¹ JOURN. OF CUT. AND GEN. URIN. DIS., December, 1900.

but smaller in size, were present on the arms. A few elongated plaques like those of seborrheic eczema, covered with yellowish scales, occurred on the legs. The nails were unaffected.

The diseased skin was peculiarly sensitive to external applications, and even mild sulphur ointments caused distinct inflammation.

An histological examination was made from a piece of tissue removed from the right flank.

The stratum corneum was thickened, and there was some keratosis at the mouths of the follicles. The transitional layers were deficient. The basal layer of the epidermis was almost totally absent. The prickle-cells stained badly, and showed interepithelial spaces. The nuclei were flattened, elongated, and sometimes reduced to a crescent. The papillæ seemed to be broadened, and the interpapillary processes extended deeply between them. The papillæ were filled with an infiltration of lymphocytes extending to the superficial layer of vessels. No evidence of plasma-cells was noted. The connective tissue seemed less dense than usual. The blood-vessels were surrounded by lymphocytes. A diminution of the elastic fibers was noted. Edema of the cutis was present.

White did not regard these cases as instances of parakeratosis variegata, psoriasis, seborrheic eczema, pityriasis rosea or premycotic eczema, but considered that they were identical with the dermatitis Brocq had described.

The second case, however, has certain very striking features of resemblance to Dr. Radcliffe Crocker's second case, in spite of the fact that in the one case the dermatitis was in the form of network, or marbling, and in the other it was coarse and patchy. The patients were both robust young men; the one was a ship's engineer, the other a fireman, and both were exposed to extreme temperatures. Both were subject to exacerbations and remissions. In both, the affected skin was erythematous, and covered more or less with fine powdery scales. In the parakeratosis variegata case the essential lesions were macules and low papules; here they only suggested a papulation and were not raised to the touch. The face was not, or only slightly, affected, and in one situation a patch was observed in which there was a central island of normal skin. Of course, from a description alone it is almost impossible to more than surmise regarding the identity of two cases, only one of which we have seen; but in view of these points of similarity, we might be warranted in regarding the case, if not identical with, at least somewhat related to, "parakeratosis variegata."

When we reviewed the histological descriptions which are appended in these two cases, we also found a striking similarity with what we

had found in "parakeratosis variegata." In the papillary layer we had edema, infiltration of small cells round the vessels and on the epidermis, blurring of the basal layer, interepithelial edema, edema of the prickle-cells, evidenced by their diminished staining capacity, defects in the granular layer, and absence of the stratum lucidum. These changes were all present in parakeratosis variegata, and we might even venture so far, in spite of minor influences, as to regard the parakeratosis variegata and the erythrodermic pityriasis (Brocq) as variants of the same species, in the former affecting the vessels of the papillary and subpapillary layer almost universally, in the latter in a patchy manner.

The second case described by White differed from the "parakeratosis variegata" cases considerably with regard to its want of resistance to external applications. This might, however, be explained by some peculiar idiosyncrasy of the patient to mild sulphur ointment.

At the Fourth German Dermatological Congress, Dr. Jadassohn showed a patient who presented "*a peculiar psoriasiform and lichenoid exanthem.*" As this case has several characteristics in common with our case, we give the following short note of it:

The patient, a man aged 30, had on the back and front of the trunk and legs an irregularly disseminated and grouped eruption, of which the essential lesions were pin-head to linseed-sized red papules. These were oval or roundish in shape, never polygonal, and covered with fine scales. On scratching the scales off, the papules tended to bleed. The papules were not connected with follicles. There were no subjective symptoms. The mucous membranes were not involved.

A small piece of tissue excised from the thorax showed, on microscopical examination, a superficial round-celled infiltration around the vessels of the corium. A slight proliferation of the epidermis with infiltration of the interepithelial spaces with leucocytes. The stratum granulosum was defective, and nuclei were detected in the cells of the horny layer.

Clinically, this case of Jadassohn's resembles parakeratosis variegata in the size and general description of the initial lesions, but differs from it in that the papules readily bled on being scratched, and in that they were grouped, but unconnected with each other (no meshwork formation).

Histologically, we have a state of things which might be described as a connecting link between psoriasis and parakeratosis variegata. In all three we have to deal with a superficial inflammatory condition, with more or less edema of the papillary and subpapillary layers. In psoriasis there is a marked activity of the epithelium to proliferate; this feature is practically absent in parakeratosis variegata, while it is present, to a

certain extent, in Jadassohn's case. In all three there is more or less edema of the epidermis and infiltration. In psoriasis defective cornification, exemplified by absence of the granular layer and persistence of the nuclei in the imperfectly cornified cells, is the rule. This feature was also present to a marked degree in Jadassohn's case, and appealed, from Jadassohn's description, to be a more constant feature than it was in our case.

Under the title of *Pityriasis lichenoides chronica*,¹ Dr. Fritz Juliusberg describes an affection closely related to parakeratosis variegata.

CASE I. occurred in a woman, aged 21, and it had begun when she was a child of 7, and persisted with very little alteration since it first appeared. The efflorescence consisted of numerous disseminated reddish-yellow papules. These varied in size from that of a pin's head to that of a linseed, were only slightly raised, were flat on the surface, and were covered with a fine scale. The scale was yellowish-white in tinge, and on being scratched off, the papule did not bleed. There were also a number of similarly colored macules about the size of the papules. Its distribution was almost universal, but the face, though presenting a number of acne lesions, was free of the papules, and the scalp, palms of the hands, feet, and nails were not affected (a distribution almost identical with parakeratosis variegata).

The affected skin was extremely resistant to treatment, and mild remedies had no beneficial effect; even chrysarobin and pyrogallol were easily tolerated.

CASE II.—The patient was a healthy merchant, aged 24. The eruption began, a year before he was examined, on the extensor surfaces of the extremities, and from there it became universal. No subjective symptoms were present. The efflorescence was especially severe on the arms, backs of hands, feet, and about the axillæ and scrotum. The face, although presenting traces of acne, had none of the lesions of this complaint. The essential lesions were reddish polygonal glossy flat papules, the largest of which were covered with fine scales. These can be scratched away, without causing bleeding. The palms of the hands were affected in this case. There was a certain degree of infiltration present of many of the papules.

The skin was treated for a month with a 3-per-cent. solution of pyrogallol in spirit, without any beneficial results.

Jadassohn, of Berne, in his recent contributions to Kaposi's *Festschrift* on the subject of "Lichen," preferred the name *Dermatitis psoriasisformis nodularis* to the title which Juliusberg employs for his cases, and makes the following observations:

¹ *Archiv et Dermat. u. Syph.*, Bd. L., 1899.

"After seeing a case and reading Juliusberg's paper, I was thoroughly convinced that we had to do with an affection which was absolutely independent of lichen planus, and that every dermatologist who had studied such a case must recognize it as somewhat peculiar."

Five previously reported cases of a similar dermatitis have been collected by Juliusberg, and it will be an advantage to give a few short notes on these:

CASE I. (Neisser).—The patient was a female, aged 21. The eruption was almost universally disseminated, but avoided the scalp. The essential lesions were isolated, flat, red, round or angular outlined shiny papules, covered with fine scales. No bleeding was occasioned by removing those scales. The sound skin of the extremities was bluish-red. The dermatitis resisted arsenic internally, and ichthyol and pyrogallol externally.

Neisser christened it a "*Lichenoid and Psoriasiform exanthem*."

CASE II. (Jadassohn).—The patient was a male, aged 26. The eruption began on the neck and had spread over the body in eight days. The essential lesions were pin's-head to linseed-sized round or oval papules, red in color and covered with a scale. The scale could be scratched off without bleeding being caused. Jadassohn named it "*Dermatitis psoriasiformis nodularis*."

CASE III. (Juliusberg).—A young female, aged 17, had presented the eruption since childhood. The head and face alone were unaffected. The lesions were linseed-sized orange-yellow defined flat papules covered with fine scales.

Tar and chrysophanic acid with arsenic injected into the veins caused no decided improvement.

CASE IV. (Pinkus).—The patient was a woman, aged 32, who had been affected with the dermatitis for sixteen years. The eruption was universal, except on the scalp, face, and feet. The eruption consisted of an aggregation of red lichenified efflorescences covered with thin scales, and varying in size from a linseed to a bean. On scratching the scales off, they bled slightly.

CASE V. (Róna).—The patient, a male, aged 31, had suffered from this complaint since he was 27 years of age. It was subject to complete remissions. It was not present on the head, face, and palm of the hand. It was made up of linseed-sized, round or oval, reddish-brown flat papules, and macules covered with fine scales.

Seven cases have thus been reported of this "*lichenoid and psoriasiform exanthem*."

These seven cases showed that the dermatitis had certain definite characteristics which were common to all.

(1) It was essentially a disease of young or adult life, and the extreme ages of incidence in the cases were 8 and 28.

(2) In all the cases the scalp was unaffected, and in all, except one, the face.

(3) The essential lesion presented two stages.

(a) A red, pin's-head-sized smooth flat efflorescence, which was not scaly and resembled a lichen planus papule.

(b) Later, the papules became decked with a silvery thin scale, which could be scratched away without causing bleeding.

(4) Subjective symptoms were slight or wholly absent.

(5) The affected skin was peculiarly resistant to treatment, even with strong keratolytics, such as pyrogallol and chrysarobin.

(6) The histological appearances presented by Juliusberg's cases were—

(a) The stratum corneum was not thickened, and the nuclei persisted in the cells.

(b) The stratum granulosum was normal.

(c) A few leucocytes were present between the lower prickles and the prickles were not destroyed.

(d) In the papillary layer an infiltration following the direction of the vessels was present, consisting of leucocytes.

(e) The deeper parts of the cutis, sweat-cells, were not affected.

There was thus a combination of two processes—namely, an imperfect type of cornification, and a superficial inflammatory infiltration of the corium and papillary body.

These seven cases of what appears morphologically and histologically to be the same affection of the skin, bear a striking similarity to parakeratosis variegata. We see this in the microscopical details of the lesions, in the peculiar resistance to external treatment, and in the appearance of the efflorescences. In none of the cases, however, did the macules and papules so increase in numbers as to leave only small areas of sound skin within the meshes of an inflamed maculo-papular network. In both, there was the same absence of characteristic subjective symptoms.

Neisser presented at the Fourth German Dermatological Congress a patient suffering from a *peculiar lichenoid eruption associated with Vitiligo* (Ueber Vitiligo mit lichenoider Eruption), affecting the trunk, inguinal regions, and presenting symmetrical foci on the knees and arms. In these regions, irregularly demarcated depigmented patches were present, on which were dotted lichen-like papules covered with small scales, and a certain degree of lichenification was present. He

regarded the papules, which were associated with a certain amount of vasomotor disturbance, as the precursors of the vitiligo.

This case bore several superficial points of resemblance to parakeratosis variegata, but was clearly of a different nature.

DIFFERENTIAL DIAGNOSIS.

We have now to consider briefly the differential diagnosis of our case of parakeratosis variegata from other dermatoses to which it bears a clinical or histological resemblance. First of these we have to distinguish it from *Psoriasis*, and we must frankly confess that, being unfamiliar with Unna's cases, and only having seen Jamieson's three doubtful cases at Edinburgh, we had some little difficulty on first seeing this case of distinguishing it from a widely distributed old standing case of psoriasis in a state of involution. Of course, there was no difficulty in recognising it from a typical case of psoriasis, for the seats of election of that disease were not more involved than other situations, and the scalp, which is so commonly affected in psoriasis, and is practically invariably so in a severe case, was free of the disease. We have to consider, however, more particularly the points of distinction which were here present, which served to differentiate it from an involuting generalized psoriasis. In the first place we have the peculiar retiform appearance of this dermatitis which is replaced in psoriasis by a more uniform redness. Here we had to deal with macules and papules forming the initial lesions which were tolerably uniform in size, resembling lichen planus papules in shape, but differing from them in being scaly. In psoriasis of the guttate type small lesions undoubtedly exist, but in an old case large patches are almost invariably present.

The scales in our case were yellowish-white and powdery, and had not the silvery appearance of psoriasis-scales, and on being scratched off, no bleeding occurred. The duration and course of the disease was also against psoriasis, since for five years, except for slight exacerbations and remissions, according to the patient's statement, it had persisted in spite of almost continuous treatment very much *in statu quo*. This dermatitis also seemed extremely resistant to treatment. We have not been able to ascertain the precise treatment which was adopted previously to his coming to Westminster Hospital, except in so far that he tells us that he has had a variety of ointments, tar baths, and thyroid tabloids, but without any appreciable benefit. Subjective symptoms were wholly absent, which is not the case in a severe psoriasis.

Histologically it was distinguished from psoriasis by the compara-

tively slight vascular dilatation, the absence of epithelial proliferation, the presence of a granular layer, the slight amount or total absence of "parakeratosis," and the absence of these small collections of leucocytes between the lamellæ of the stratum corneum which are so characteristic of psoriasis.

We have next to consider the question of diagnosis from an universal chronic lichen planus. In the latter condition the marbled variegated appearance is absent, the infiltration is greater, verrucose patches are generally present on the shins, and subjective symptoms are decidedly evident (severe irritation of the skin and other nervous disturbances), and on microscopical examination there is a proliferative activity of the epithelium in lichen planus.

The condition of the skin did not suggest an eczema in any sense of the term. At no period in its course was it ever vesicular, nor did the scales resemble the oily scales of eczema seborrhoicum. Under the microscope, however, except that the interepithelial edema never reached the stage of vesiculation, and there was no epithelial proliferation, the section showed more resemblance to some we have seen of very chronic eczema than they did to psoriasis.

It was distinguished from exfoliative dermatitis, whether that be regarded as a special disease, or, as secondary to some other dermatitis, by the marbling, and by the absence of severe subjective disturbances, and of implication of either the hair or the nails.

From the other diseases which Unna includes under the heading of the "parakeratoses," such as ichthyosis, pityriasis rosea, trichophytia, etc., the differential diagnosis was obvious.

To "erythrodermie pityriasique en plaques Disseminées" (Brocq), except in so far that instead of efflorescing in disseminated plaques it formed a meshwork, the resemblance in almost every detail was so striking as to show that the two conditions were closely allied to one another, and Brocq considered that both belonged to the same group. Jadassohn's "peculiar psoriasiform and lichenoid exanthem" though resembling it in the general description of the initial lesions, differed in that the lesions in Jadassohn's case easily bled on being scratched, and were not arranged in a reticulate manner. We have already described Jadassohn's case histologically as a connecting link between psoriasis and parakeratosis variegata.

The pityriasis lichenoides chronica of Juliusberg, the lichenoid and psoriasiform exanthem of Neisser, and the dermatitis psoriasiformis nodularis of Jadassohn, all presented the same resistance to external remedies, the same absence of marked subjective symptoms, and much

the same clinical appearances and microscopical details in the initial lesions as parakeratosis variegata. They further resembled the latter disease in the regions of the skin affected, though they differed with regard to the distribution of the lesions.

GENERAL DISCUSSION OF THE CASE.

Have we then in "parakeratosis variegata" a special entity, or are we dealing after all with an anomalous type of psoriasis, lichen planus, or other recognized dermatitis? Clinically our answer to this question can be perfectly definite, for the naked eye appearances are so peculiar and characteristic as to distinguish it from any other forms of dermatitis we are familiar with. But histologically, although there are certain uniform pathological changes, he would be a bold expert who, from an examination of sections alone with no previous knowledge of the case, would venture an unqualified diagnosis of parakeratosis variegata. On the other hand, from a histological examination alone, it should be possible to refer it to the group of diseases we have just been discussing, of which Brocq's "erythrodermie pityriasique" might be taken as the type, and to distinguish it from psoriasis, eczema, or lichen planus. There was a marked similarity running through every member of this group when examined histologically. In all of them there was a superficial inflammation practically confined to the papillary and subpapillary layers, with dilatation of the capillaries, edema, and cellular infiltration, an interepithelial edema, and a defective type of cornification, not so advanced as is usual in either psoriasis or eczema, but sufficient to cause the horn-cells to adhere together and to form scales. The prickle-cells showed a parenchymatous edema, with here and there dilatation of the nuclear spaces, but this never advanced sufficiently to cause the *altération cavitaire* of Leloir and the formation of a parenchymatous vesicle; nor was the interepithelial fluid in sufficient quantity to separate the prickle-cells till their connecting bridges were ruptured, and so form a vesicle in that manner. The interepithelial fluid seemed to possess no poisonous properties which could by a process of necrosis cause a destruction of the cells and their uniting filaments, and the actual prickle-cells appeared to be comparatively healthy in spite of the edema. The appearances in our case suggested not so much an epithelial edema produced by a positive chemiotaxis engendered by the irritant properties of micro-organisms on the surface, as an edema which was due to a vaso-motor disturbance in the superficial blood-vessels. The fact that the condition was clinically most marked in the regions where stasis was liable to occur, such as the acroteric regions, and that in our

case there was distinct evidence of a feeble peripheral circulation, would lend color to this hypothesis. This might also in some measure explain the peculiar resistance to local treatment, for here reducing agents, keratolytics and germicides, though they are distinctly indicated where we have a presumptive parasitic cause, or where proliferation of the epithelium is the most pronounced feature of the disease, would naturally be useless if the dermatitis were secondary to changes occurring in the blood-vessels accompanied by edema.

We have in parakeratosis variegata one of the members of a group of diseases for which we have not yet got a generic name. It is true that they might all come under the heading of "Parakeratoses" in the wider sense of Unna, but they present such definite clinical and histological peculiarities of their own, distinguishing them from the other members of the group and associating them together, that they deserve a more specific title, and we might suggest as a provisional clinical heading for the group the following:

RESISTANT MACULO-PAPULAR SCALY ERYTHRODERMIAS.

And include under that heading:

- (1) Erythrodermie pityriasique en plaques disséminées (Brocq).
- (2) Dermatitis psoriasiformis nodularis (Jadassohn).
- (3) Pityriasis lichenoides chronica (Juliusberg).
- (4) Lichenoid psoriasiform exanthem (Neisser).
- (5) Parakeratosis variegata.

These conditions are all closely allied, and differ in little else, either clinically or histologically, than in the grouping and general arrangement of the initial lesions in the skin.

CONCLUSIONS.

- (1) Parakeratosis variegata is a clinical entity.
- (2) It attacks chiefly the male sex, usually occurs in adult life, and the patients are generally in robust health when attacked by it. We know little of its etiology, though from its general configuration and histology it suggests a vaso-motor disturbance associated with edema and infiltration of cells in the corium and secondary changes in the epidermis.
- (3) The initial lesion is a macule, or maculo-papule, of small size, flat on the surface, and covered with a fine adherent scale, which may be scratched off without causing bleeding.
- (4) By the coalescence of the lesions a peculiar retiform arrange-

ment results, in which areas of normal skin are enclosed, and which, combined with differences in the color of the lesions in the more dependent parts of the body, produces the marbled or variegated appearance which is one of the most pronounced characteristics of the dermatitis.

(5) It affects the skin almost universally, except as a rule that of the face, scalp, palms, and soles.

(6) It is subject to remissions and exacerbations, but is peculiarly chronic in its course.

(7) Marked subjective symptoms are singularly absent.

(8) It is strangely resistant to local treatment.

(9) It consists histologically of a superficial inflammation affecting the subepidermal layer with dilatation of vessels, edema, and infiltration of cells; and an edematous condition of the epidermis with more or less defect in the process of cornification.

(10) It may be regarded as belonging to a group of superficial inflammations of the corium, with secondary changes in the epidermis which we have provisionally entitled "Resistant Maculo-Papular Scaly Erythrodermias," which might include, besides this variety, erythrodermie pityriasique en plaques disséminées (Brocq), pityriasis lichenoides chronica (Juliusberg), dermatitis psoriasiformis nodularis (Jadasohn), and the lichenoid psoriasiform exanthem (Neisser).

Selections.

Resection of the Dorsal Vein of the Penis for Impotence.—G. F. LYDSTON (*Int. Jour. of Surg.*) has been unable to secure as satisfactory results from this operation, as reported by its more enthusiastic advocates. Many of the sudden and complete cures he believes were really cases of psychic impotency in which "an alleged operation upon the dorsal vein of the penis would be likely to be equally efficacious with the genuine article." Dr. Lydston asserts that many of these reports show ignorance of the anatomy of the penis—that the superficial veins which are tributary to the dorsal vein were the ones really ligated. Ligation or resection of the dorsal vein is by no means easy; it requires careful dissection, and while it can be done with cocaine, is best done the first time under general anesthesia. In some cases it is perfectly satisfactory—in about 25 per cent. of his own cases. In probably half the remaining cases there is some improvement; in the rest it fails. He recommends the resection of half an inch or more of the vein rather than simple deligation.—*Med. Standard*, p. 391, 1901.

Curetting the Urethra in the Treatment of Chronic Posterior Urethritis.—

By GEORGE WALKER, M.D. (*Maryland Medical Journal*, March, 1901, p. 108).

Walker has treated the posterior urethra in a number of long-standing and

obstinate cases, by curetting, with excellent results. Several obstinate cases were cured after curettements.

In long-standing cases, endoscopic examination of the posterior urethra shows, especially in the bullous portion, a hard infiltration which extends well down beneath the surface; the mucous membrane is much congested, in some places, eroded by granulation tissue and small ulcerated patches. In this condition autopsies have shown that the gonococci infiltrate the epithelial layer and in some cases penetrate the muscular coat. Radical treatment is therefore necessary.

The urethra is irrigated with a 1 to 40,000 bichlorid solution, and then a 4 per cent. cocaine solution is instilled and held five minutes. An endoscopic tube, as large as possible, is introduced and the diseased spot localized by illumination. The curette is next applied and the portion in view thoroughly scraped, so that the diseased tissue at that place is entirely removed, and along with it the epithelial layer and submucous tissue if necessary.

Then a 10 per cent. solution of silver nitrate is applied to the spot by means of a cotton pledget. The endoscope is then pulled slightly forward, and another area treated the same way.

In some cases where the bleeding is extensive the light must be dispensed with, for the blood soon obscures the lamp. After a little practice one can judge by the touch, felt through the curette, and can work almost as well without direct vision. In most cases the bleeding is slight and almost immediately ceases. The pain is slight, especially if the cocaine has been rightly applied.

Following the curettage, a profuse purulent discharge sets up, which lasts one or two days. The microscope reveals many small, short bacilli, diplococci, and usually a few gonococci. For this a twice-daily irrigation of 1 to 50,000 bichlorid solution is employed.

The curette must be sharp, long and slender. The end is round, cup-shaped and measures 2 mm. in diameter.

A. L. W.

Total Extirpation of the Ureter.—By WILLY MEYER, M.D. (International Contributions to Medical Literature. Festschrift in honor of the seventieth anniversary of the birth of A. Jacobi, M.D.).

The primary operation of removing the ureter simultaneously with the affected kidney is rarely performed, because of the serious addition to the risk connected with removal of the kidney. Secondary total ureterectomy is therefore more often performed than the primary operation.

Conservatism has taken a firm hold on the surgery of the kidney; the organ is removed at the first operation only in cases of malignant tumor, primary tuberculosis and exceptionally severe cases of suppuration, and even in these affections some argue against sacrificing the entire organ.

In malignant tumor of the kidney, with total involvement of the ureter, the trouble will evidently be beyond the reach of the knife. Ureterectomy will therefore generally be a partial one. As much of the ureter as can be reached from the wound should be removed, without subjecting the patient to an additional operation.

In fourteen cases of renal tuberculosis in which Meyer performed nephrectomy, the ureter was not totally removed. When materially infiltrated the proximal part of the ureter was resected as far as possible; if not especially affected by the tuberculous process the tube was simply cut off below the kidney and dropped back into the retroperitoneal space. This procedure has been modified

within several years, by cauterizing the lumen of the distal end with a Paquelin, and then tying it with catgut, thus preventing urine from the healthy kidney from passing through the free end of the ureter.

In the majority of cases when the source of the trouble, viz., the primarily diseased tuberculous kidney, has been removed, the continued re-infection of the ureter ceases, and the tuberculous process within the ureter heals. In the majority of cases of primary renal tuberculosis the cystoscope shows the corresponding ureteral opening ulcerated; and if the diagnosis be established *early*, and nephrectomy carried out promptly, these ulcerations around the vesical end of the ureter disappear, and the process within the ureter farther up, also heals. The cystoscope might often furnish the best means for determining the indication for secondary ureterectomy in tuberculous cases. If these ulcerations of the ureteral mouth persist after an early nephrectomy on that side, we may conclude that the tuberculous process within the ureter shows no tendency to heal. On pressing upon the hypochondriac region during cystoscopy, we should observe pus entering from the ureter into the bladder. These cystoscopic facts may be relied upon.

In not a single case of renal tuberculosis, when the patient died months or years after nephrectomy, could the cause of death be attributed to the fact that a probably diseased ureter had been left behind. We can therefore say that total extirpation of the ureter in combination with removal of a tuberculous kidney is indicated only if the tube is visibly enlarged and suppurating.

In performing a nephrotomy or nephrectomy the patency of the ureter should be carefully tested. A stricture or a stone can thus be easily diagnosticated. If the stone can be reached from the lumbar wound it should be extracted. If it be in the lower end of the ureter, the organ should be exposed extraperitoneally at once, if the patient's condition permits. If it does not, it must be done later to avoid further trouble. If a ureter is filled with a great number of calculi it is best to excise the entire canal.

A stricture in the ureter without the presence of the stone whose passage originally caused the stricture, will not often necessitate the extirpation of the ureter after the kidney has been removed. It is rarely so tight as to prevent the small amount of mucus discharged above from passing into the bladder. If diagnosticated during nephrectomy the ureteral stump should not be cauterized and tied, but rather left open and stitched into the lumbar wound. With proper drainage of the upper part of the ureter into the lumbar wound and, if necessary, with irrigation and dilatation of the ureteral stricture from this wound, the ureter has a better chance to heal.

A. L. W.

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THE CAUSE. OF THE STREAKS IN NÆVUS LINEARIS

BY DOUGLASS W. MONTGOMERY, M.D.,
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IT is evident that the arrangement of the warts in linear nævus is not owing to chance, it has an anatomical basis. Just what this anatomical basis is has engaged the attention of a great number of observers, and the motive of this present paper is to bring before you a case, which may throw some light on this matter.

On May 7, 1898, the late Dr. H. D. Robertson referred to me a healthy, intelligent lad of twelve years of age, with linear nævus. He was one of a family of three boys, all healthy. When one year old the patient had malarial fever, and at two years of age, typhoid fever. At three years of age, adenoids were removed from his pharynx, and one of his brothers had a similar operation at seven years of age. This patient and one of his brothers had adhesion of the prepuce, requiring circumcision.

The father told me, that as a boy, the back of his own right hand had been covered with warts, which had disappeared spontaneously after suppuration, leaving a considerable number of scars. The mother, as a child had meningitis, which affected her right side, so that it has never fully developed. She is left handed, as she thinks, from the failure of development of the right side. She has two slight discolorations, (birth-marks), over the lumbar muscles, bilaterally. It is of course, not thought there was any connection between any of these

¹ Read before the American Dermatological Association, May, 1901.

things and the *nævus linearis* of our patient. These matters are simply entered in the history to make it complete.

The linear *nævus* was very widely distributed, and consisted for the most part of either light or dark buff colored, flattened elevations. None of the lesions were merely pigmentary ; in all situations, even where there were no warty elevations, there was, at least, some hypertrophy of the horny layer, with a consequent roughness. As has been said, the warts were usually low and flattened on top, but in the right axilla they became vegetative, looking like cock's comb condylomata. This was evidently due to the heat and moisture in this region. There were some warts in the right side of the navel that were quite large and rounded, and had a thick, dark, epidermal covering.

The *nævus* was widely distributed, being situated on the right upper eyelid, on the neck both in front and behind, on the chest both in front and behind, on both upper arms, on the anterior surface of the left forearm, in the left axilla, on the abdomen, on the right side of the pubis, and on the right side of the perineum. In some places the lesions were scattered, as for example on the front of the chest, but as a rule the linear arrangement was marked. Although the affection was bilateral, yet its relationship to the median line of the body was outspoken. This was especially well seen on the abdomen, where it came up to the *linea alba*, but did not cross it.

These warts were not noticed at birth, but shortly afterwards, and the mother remarked them first on the back of the neck, and probably because of being streaked, she naturally attributed their occurrence to a scratch of a pin. At two years of age they were abundant. Those in the right armpit, and a patch on the back were supposed to be recent.

There was no doubt about the affection being a linear *nævus*. Its wartiness, its roughness, its buff color, the streaked arrangement of its elements, its slow evolution, and its permanency all pointed to this diagnosis. The fact that it was first noticed some time after birth, is not against its being a *nævus*, although at first thought, it might appear to be so.²

The microscopic examination of some of the lesions showed it to

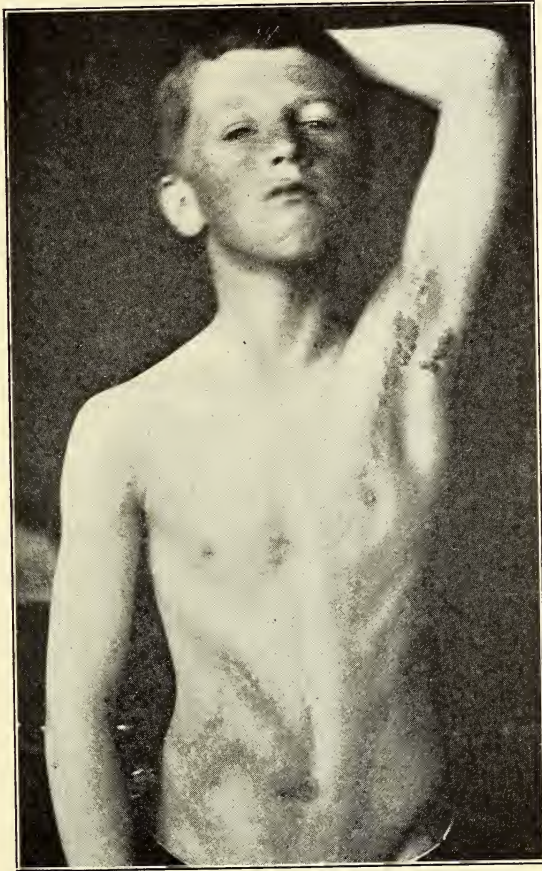
²The term *nævus* is applied to some growths and deformities of prænatal foundation, which, however, may not be congenitally appreciable to the senses. Besnier at one time contended that a *nævus* must be appreciable at birth, but later receded from this view. (*Annales de D. et de S.*, 1894, p. 1277). As instances where the affection was not present at birth, but appeared some time afterwards. See L. Philippson's first case (*M. f. p. D.*, 15 Okt. 1890), where the affection appeared in the child's second year: L. Philippson's third case; Betruille's case, quoted by Philippson *vide supra*, Bd. XI., S. 345; Cutler's case, *JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES*, 1890, p. 139; Werner's case, No. 1. (*A. f. D. u. S.*, XXXIII., 341) began in the first year of life, and in case No. II. the affection was first observed in the patient's eighth year, and from then on became more and more marked.

be of the distinctly papillary variety with a slight increase of the pigment of the skin.

As far as the nervous system was concerned there were no symptoms whatever.

The point of special interest in this case, as far as the present

FIG. I.



Author's Case.

paper is concerned, lies in the direction taken by some of the lines. Those on the right upper eyelid formed a row of flat topped, buff colored warts running parallel to the free border, and about one-sixteenth of an inch distant from it. Those on the back of the neck were in the median line, and straight up and down in the direction of the long

axis of the body : one of these lines was up at the nape of the neck, and the other was down opposite the lower cervical vertebræ.

The most curious figure of all, however, was that presented by the lines on the abdomen. A band commencing at a short distance from the median line in the lower part of the right lumbar region ran, as one would think it should, to follow the natural lines of the trunk, downwards and outwards, but it had scarcely reached the front aspect of the belly, when it curved sharply upwards to the seventh rib, just inside the nipple line, then fell sharply in a line downwards and inwards straight towards the navel. Another band arose from over the outer third of Poupart's ligament, ran upwards and inwards to a point on the right side of the belly above the level of the navel, then scattered off at an acute angle downwards and inwards, making for a point about midway between the navel and the pubes. This band, therefore, followed the general direction of its neighbor and it is these two bands and the line on the right upper eyelid, and those on the back of the neck that will engage our attention, in considering how well the different theories advanced account for the conditions as found.

The theories are that :

- 1.—The lines follow the course of the cutaneous nerves ;
- 2.—The lines run along what are called Voight's lines ;
- 3.—The lines follow the lines of cleavage of the skin ;
- 4.—The lines follow the course of the blood vessels ;
- 5.—The lines run in the metameræ or segments of the body ;
- 6.—That the lines lie along the embryonic sutures, and follow the trend of growth of the tissues.

The great number of observers who have thought that the lines followed along the course of the cutaneous nerves is clearly shown by the frequency of the word "nerve" in one form or another among the synonyms. It is, at first sight, the most obvious explanation, but on examining the facts more narrowly the theory is found inadequate. In the present instance, for example, the nerves do not run straight up and down the back of the neck in the median line as the warts do, but strike this line at an angle, and on the belly the nerves run downwards and inwards, and not at all in the direction of the bands of warts. In other cases it has been found, that even when, on first thought, the nævus seemed to take the same direction as the nerves and lines of cleavage of the skin, it did not in reality do so, as in one of Philipppson's cases, where the nævus ran perpendicularly down the front of the thigh, while the nerves run downwards and outwards, and the lines of cleavage run downwards and inwards. Then again in other instances the nævus has been found to follow the course of a certain nerve for some dis-

tance, and then run over into the domain of a totally different nerve. This has been frequently observed in the thigh, leg and foot.

Some authors have attributed the linear arrangement of a nævus to a nerve running certainly in the same direction, and lying in the same locality, but situated deep in the tissues, not being a cutaneous nerve for that locality at all. It is difficult to see how a deep running nerve should affect the overlying surface, which may be some inches away from it. Shearer, in order to explain away this difficulty, thought that possibly the deep lying nerves exerted a molecular influence directly through the tissues, subcutaneous fat, etc., to the overlying surface. That is to say, in order to explain a phenomenon, he adopted an inexplicable hypothesis.³

The only facts looking to a nerve origin of the affection in the case under consideration were its unilaterality, and its slight transgression of the other side on the back, in this latter respect acting like zoster, and its occurrence in stripes on the extremities, following apparently the course of certain nerves, all of which can be plausibly explained by a different hypothesis.

Voight's lines have been called in to explain the streaks, it being thought that they fall along those lines.

Voight's lines are the boundaries of the areas of distribution of the main cutaneous nerve stems, and therefore constitute a totally different set of lines than those of the nerve stems themselves. As Voight's lines are boundaries of areas, and as the median lines of the body, both before and behind, form part of the boundaries of such areas, therefore a linear nævus falling along any part of the median lines would necessarily fall on Voight's lines. In the present instance, the lines on the back of the neck, lying along the median line, necessarily lie along Voight's lines, and also the groups on the front of the neck and on the front of the abdomen, being sharply bounded by the median line of the body, are also certainly sharply bounded by Voight's lines. But many nævi cross Voight's areas, and do not fall along the boundaries at all, such as the curious figures on the abdomen in the present instance, and even Philippson, who is one of the principal elaborators of this view, admits there are cases where it does not explain.⁴

³ Quoted by L. Philippson M. f. p. D. Oct. 15, 1890.

⁴ Philippson in his argument that the streaks in nævus linearis correspond to Voight's lines, has thrown out the suggestion that these lines not only represent the boundaries of different nerve territories, but also are the sutural lines of cutaneous areas having different directions of growth. He suggests that in these sutural lines disturbances occur in the knitting, which occasion papillary overgrowth and cornification anomalies.

Hallopeau was also, at one time, of the opinion that the streaks follow along Voight's lines. He said (*Dermatologie par Hallopeau et Leredde*, p. 880), that these lines correspond to the limits of the spheres of distribution of two neigh-

Some have thought that the lines follow the lines of cleavage of the skin, but as has been before remarked in speaking of Philippon's case of the nævus running down the front of the thigh, this does not happen, and furthermore, in the case in hand neither the lines running up and down the back of the neck nor those of the abdomen followed the lines of cleavage of the skin. It is not surprising that, in some instances, the streaks have been found to run in the same direction as the lines of cleavage of the skin, as those lines of cleavage follow the general trend of the tissues, whether blood vessels or nerves or any other constituents. The idea has been advanced, but never long entertained, that the streaks follow along the lines of the blood vessels.

It has been argued that the lines follow the metameres or segments of the body,⁵ and in many instances the lines on the trunk strikingly suggest such an origin. It is not clear, however, how a metameral origin alone would account for nævi running up and down the back in the median line, seeing that the metameres run around the trunk almost at right angles to the median line. A metameral origin for lines on the extremities would also be, if not difficult to account for, yet at least difficult to follow.

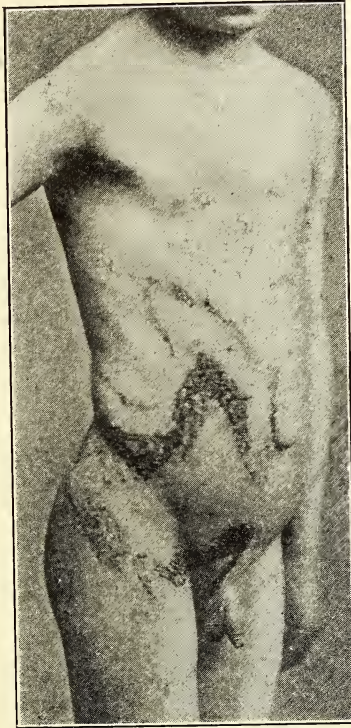
Finally, there is the idea that the streaks may be due to the streams or trend of growth of the tissues and to the adaptation of the embryonic sutures. This seems to be the view that most nearly fulfills all the requirements. According to it a nævus linearis originates at an early stage in the development of the fœtus, when the embryonic layers are still a plastic mass. The disturbing agent, whatever its nature, usually effects what will later become the papillary layer of the skin, and usually falls on one or the other side of the median line. Imagining the affected cells or groups of cells to lie in the plastic mass like currants in dough, one can see that such a group lying in the region which will afterwards become the back of the neck might be pulled toward the median line when the skin closes over the neural canal, and its individual constituents become scattered along this line as the fœtus elongates. Another group situated over the place where a limb will afterwards bud out, would be stretched along in a line with the budding limb, and the line would tend to follow all the twists and turns of the limb as it grew out, exactly as Kaposi has so graphically described. This view would explain the frequent unilaterality of the affection, its occurrence along the fissures of the body, as along the branchial clefts, the dorsal

boring nerve territories, and that therefore they contain a mingling of nerve filaments from two different origins, and consequently that trophic activities are exaggerated there, and give rise to congenital hyperplasias.

⁵Among others, M. H. Hallopeau et E. Weil, *Ann. de Derm. et de Syph.*, t. VIII., p. 483, 1897.

and ventral sutures, the margins of the eyelids,⁸ and also its streaking along a limb where there are no clefts. It is true that this premises a different mode of growth of tissues at that early stage of the fœtus than that which we know in the infant or adult, for a transverse cicatrix in an infant's limb does not later run longitudinally through subsequent growth of the limb. It always remains transverse. But it may easily

FIG. 2.



Alexander's Case.

be that growth in the preallantoid embryonic plastic mass is different from what obtains later.

A second argument against this view is that if the streaking is owing to the stretching out of a group of lesions into a streak, then the streak must necessarily become more and more attenuated as it stretches out. This gradual attenuation does not occur.

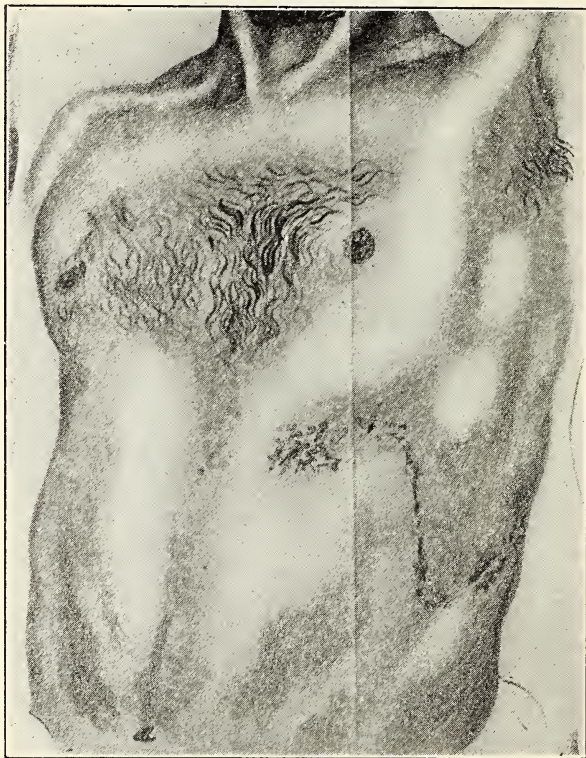
But to return to our patient: How can one account for the curious

⁸In Buri's case (*Monatsh. f. d. Derm.*, July 1st, 1899), a row of efflorescences are described as running parallel to the lid slit as in the present instance.

arrangement of the fissures on the abdomen ? Their eccentric course is not due to chance, for in at least two other cases almost exactly similar figures have been noted, in that of Werner and in Alexander's case.⁷ (Figs. 2 and 3.)

Alexander's case showed a particularly good example in which there were three stripes running practically parallel with one another, and in

FIG. 3.



One of Werner and Jadassohn's Cases.

such a way that, as remarked of them, by Blaschko, one is struck by their metameral arrangement. It may be that in some instances the sutures together with the pull of the tissues in closing the sutures determine the formation of the lines, in others the budding and primary growth of a limb, and in still others the metameres may play a part.

⁷A. Werner u. J. Jadassohn, *A. f. D. u. S. Bd.*, XXXIII., 341, 1896.
Arthur Alexander, *Derm. Zeitsch.*, Bd. II., S. 343.

But if the metameres govern the formation of the lines on the abdomen, how is one to account for the sharp angle running up toward the chest as described in this case, in Werner's and in Alexander's seeing that it is assumed that the metameres are rings either placed horizontally or with a tilt downwards in this situation ?

Blaschko has thought that in Alexander's case it was due to the impress given the tissues by the descending testicle, but in such event one would think the loops would be turned not upwards, but downwards, as in the cremasteric muscle. I would suggest that the angle in those lines above the umbilicus, might be due to a tucking up of the tissues by the loop of the vessels running from the umbilical cord to the liver ; below the umbilicus, they may be due to the tucking up of the metameres in the formation of the inguinal canal.

In regard to treatment, the best found was that recommended by Chas. C. Ransom, to pinch up the skin, and trim off the rounded surface with blunt pointed scissors.*

SYNONYMS OF NÆVUS LINEARIS.

1. Congenital papillary streaks.
2. Dermatome hypertrophique congenital pigmentaire, plan, généralisé (de Gaillard, *Annales de Derm et de Syph.*, t. I., p. 498).
3. Die systematisirten Nævi.
4. Eczema neuroticum.
5. Ichthyosis cornea.
6. Ichthyosis cornea (hystrix) partialis (L. Philippson, *M.p.D. Okt.*, 15, 1890. Name proposed by D. Caro, Hamburg).
7. Ichthyosis herpetiformis.
8. Ichthyosis hystrix, (Crocker treats of it under this head. "Diseases of the Skin," 1893, p. 381).
9. Ichthyosis hystrix congenita.
10. Ichthyosis hystrix nigricans (Butruille, *Annales de Derm. et de Syph.*, 1887, p. 706).
11. Ichthyosis Linearis Neuropathica (Koran, *N. Mag. f. Lægew.*, No. 9 Christiania, 1889, quoted by Philippson, vide supra).
12. Kératose linéaire systematisée.
13. Nævus kératosique systematisé.
14. Nævus lichenoïde.
15. Nævus lichenoïde keratopilaire (accord. to P. Morrow, by Hallopeau).
16. Nævus linearis ichthyosiformis.
17. Nævus linearis verrucosus (Unna) s. ichthyosiformis.

*JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES, Vol. XIV., p. 141.

18. Nævus maternus.
19. Nævus nervosus (accord. to P. Morrow, by Neumann).
20. Nævus papillaris nervosus (accord. to P. Morrow, by Neumann).
21. Nævus pigmentaire lichenoidé généralisé, par d. Gaillard, *Ann. de D. et de S.*, t. 2, p. 498).
22. Nævus pigmentosus. Veiel, "Sitzungsb. der Sect. f. Derm. der. 62 Vers. deut. Naturf. u. Aerzte," Heidelberg, 1889, *A.f.D.u.S.*, 1890 p. 207.
23. Nævus piliferus pigmentosus (Joseph, 1889).
24. Nævus systématisé métamerique (Hallopeau, H. et Weil E., *Ann. de der. et de syphiligraphie*). (1897, t. VIII., p. 483).
25. Nævus unius lateris. (Bärensprung, "Chariteanalén," 1863, Bd. XI. Quoted by Petersen, *A.f.D.u.S.*, Bd. XXIV., S. 925).
26. Nævus verrucosus.
27. Nævus verrucosus lateris. (J. Müller., *A.f.D.u.S.*, Bd. XXIV., S. 21.)
28. Nævus verrucosus papillaris unius lateris.
29. Nævus verrucosus pilosus.
30. Nævus verruqueux linéaire (accord. to P. Morrow, by Galewsky).
31. Nævus verruqueux unilateral.
32. Nævus verruqueux zoniforme.
33. Nævus zoniforme lisse (Barthelemy, *A. de D.*, 1882, p. 280).
34. Nerve nævus.
35. Nerven nævus (Th. Simon, *A.f.D.u.S.*, 1872, p. 24.)
36. Neuropathisches Hautpapillom (Gerhardt, *Jahrb. f. Kinderheilk.*, IV., 1871, p. 270, quoted by Spietshka, *Ann. f. D.u.S.*, Bd., XXVII., p. 28).
37. Neuropathisches Papillom.
38. Papillary nævus.
39. Papilloma Area-Elevatum (Beigel).
40. Papillome congénital neuropathique (J. Brault, *Ann. de D. et de Syph.*, V., 831).
41. Papillome corné nevrotique, (accord. to P. Morrow by Mathieu).
42. Papillome eczematiforme.
43. Papillome essentielle nevropathique, (accord. to M. L. Gaillard, by Gerhardt, *Ann. de D. et de S.*, t. 2nd, S., p. 498).
44. Papillome neuropathicum unilatérale.
45. Papilloma Neurotico-Zosteriforme, Bilateral, De Amicis.
46. Papilloma neuroticum.
47. Trophonevrose Lichenoïde en bande linéaire.
48. Unilateral papilloma.

A CASE OF DERMATITIS VEGETANS.

BY M. B. HARTZELL, M.D.,

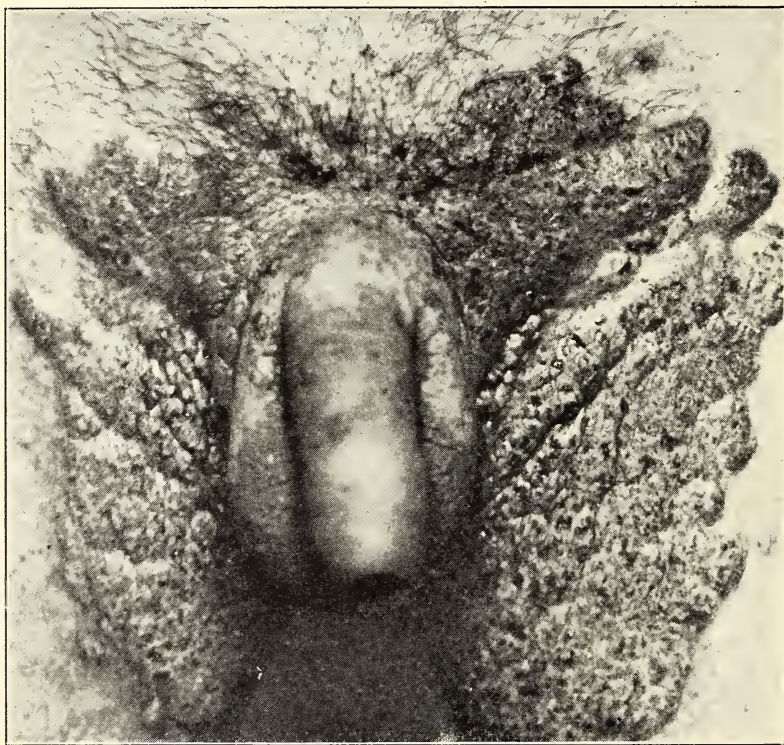
Instructor in Dermatological University of Pennsylvania; Dermatologist to the
Methodist Hospital of Philadelphia; Dermatologist to the Philadelphia Hospital.

THE rarity of the disease which it represents, the striking and unusual appearance of the lesions characterizing it, and the uncertainty as to its place in the classification of cutaneous diseases make the following case one of more than common interest, and afford sufficient excuse for reporting it.

J. J., 57 years of age, a native of England, and a miner by occupation, was admitted to the wards of the University Hospital on account of a cutaneous disease occupying the groins, the inner surface of the thighs, and the legs. Two large plaques situated in the inguinal regions and extending downwards a short distance upon the inner surface of the thighs were peculiar and most striking features of the disease. These were violaceous in color, elevated several millimeters above the surrounding healthy skin, sharply defined in outline, and covered with a thin whitish scale, with a few bright-red, oozing points scattered here and there over their surface. The skin of the inner surface of the thighs below the plaques, and of the legs was dark-red, thick, scaly in places, in others oozing or crusted, and marked with numerous linear excoriations; in other words, the thighs and legs presented all the objective features of a chronic eczema. The chief symptom complained of was an intense itching in all the affected parts, coming on in paroxysms, leading irresistibly to violent scratching and rubbing until free oozing took place, when the itching subsided for a time. According to the patient's statement abundant oozing from the plaques, which he described as sweating, also occurred spontaneously; but there was no evidence of this during the brief time he was under observation, the plaques being always dry and more or less scaly. The early history of the affection was very meagre and unsatisfactory, owing in large part to the mental dulness of the patient. It seems to have begun about eighteen months previous to his admission to the hospital with an eruption of pea-sized pustules on the buttocks and

scrotum, which after a time became confluent and crusted. Somewhat later it extended to the groins and to the thighs, where it was accompanied by abundant oozing; but it seemed to be somewhat doubtful whether pustules were a part of the disease in this later situation. How soon the vegetating lesions appeared in the groins could not be learned with any accuracy; but, after making their appearance they slowly and steadily increased in size for some months and then remained station-

FIG. 1.

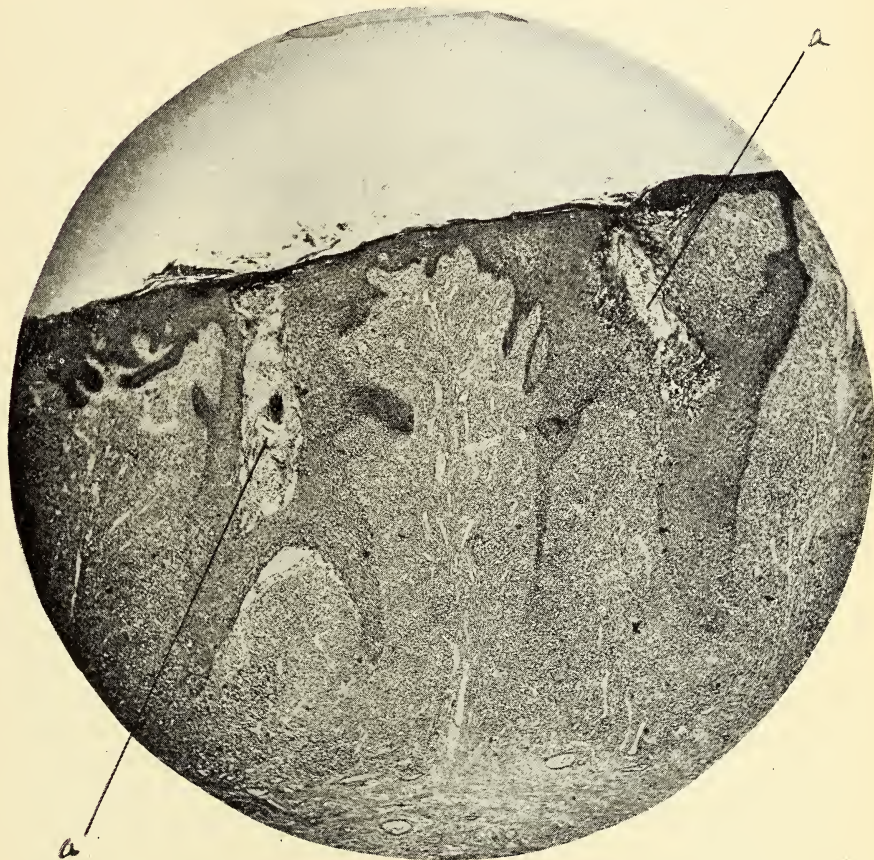


ary. During the short period the disease was under observation in the hospital, it underwent little or no change. No pustules were ever observed, except an occasional miliary one upon the inguinal plaques; nor did the scrotum and buttocks, the original seat of the eruption, show lesions of any kind. So far as could be learned, bullæ had never been present at any stage of the disease, nor were the mucous membranes ever implicated. The patient's general health was only fair; he had a chronic cough, which grew worse soon after his admission

to the hospital; and at the end of three weeks he developed a catarrhal pneumonia which terminated fatally after a few days' duration. No autopsy could be obtained.

A microscopic examination of a piece excised from the border of

FIG. 2.



Section of Inguinal Plaque Showing Miliary Abscesses (a) in Interpapillary Processes of Rete and Round-celled Infiltration of Papillary Layer of Corium.

one of the inguinal plaques showed that the pathological alterations were limited practically to the epidermis and the papillary layer of the corium. The corneous layer of the epidermis was quite thin, but in no place entirely absent. The interpapillary processes were greatly increased in length and breadth, and were frequently branched, particularly at their lower extremities. In the central portion of many of them

were elongated cavities often, but not always, communicating with the surface, containing epithelial debris and a moderate number of polynuclear leucocytes. The papillæ of the corium were likewise much increased in size, and contained large numbers of small round cells; their capillaries and lymph-vessels were increased in number and were much wider than normal. With the exception of small numbers of the staphylococcus pyogenes aureus in the surface layers of the epidermis and in the intra-epidermic cavities, no micro-organisms of any kind were found.

This case corresponds in many, if not most, of its features with those described by Hallopeau in 1889, under the title *dermatite pustuleuse chronique en foyers a progression excentrique*, an illustration of which has been published in the "International Atlas of Rare Skin Diseases (Part III.)." These cases were characterized by successive crops of pustules and vesico-pustules occurring in patches, chiefly about the genitalia, but also in the hypogastric and lumbar regions, in the axillæ, on the cheeks, the chin, and in some instances in small numbers upon the mucous membranes of the lips and the tongue. This pustular eruption was soon succeeded by an elevated, more or less deeply pigmented plaque, covered with crusts in the inguinal regions and the perineum. The disease was a chronic one, new pustules appearing at short intervals at the margin of the plaques and about the borders of former patches of eruption, and marked itching and burning were prominent symptoms. A few years later Wickham, under the title of "A Rare Case of Dermatitis Herpetiformis of Duhring," reported a case to the Société Française de Dermatologie et de Syphiligraphie (Annales de Dermatologie et de Syphiligraphie, Tome II, Troisième Série, p. 1005) in which there were papillomatous vegetating lesions and pustules upon the hand and in the perineal and scrotal regions, the lesions spreading by peripheral extension. In the discussion which followed, Vidal, Besnier and Brocq concurred in the diagnosis of dermatitis herpetiformis, Besnier remarking, apropos of the analogies of the case with pemphigus vegetans, that this latter was "un terme vague qui couvre des choses bien différentes." Hallopeau, at a subsequent sance of the Society, disputed the identity of dermatitis herpetiformis and the malady described by him, declaring that the latter was "un type nouveau et distinct de la dermatite herpétiforme de Duhring aussi bien que du pemphigus végétant de Neumann." Still later he published a new series of cases (Archiv f. Dermatologie und Syphilis, Bd XLIII), abandoning, however, the title first employed for the less cumbrous one *pyodermite végétante*, but still maintaining the non-identity of his disease with dermatitis herpetiformis and pemphigus vegetans. Quite recently,

however, as the result of the observation of new cases, he has abandoned his early position, too readily, as it seems to me, and in the text-book written in conjunction with Leredde, he describes the affection as a variety of pemphigus vegetans, or *maladie de Neumann*, as he prefers to call it.

From the foregoing, it is evident that authors are not in entire accord as to the place in nosology which this disease should occupy. There seems to me, however, to be no sufficiently valid objection to classifying as a variety of pemphigus the cases of Neumann, Crocker, Hyde and others, in which the eruption was a distinctly bullous one from beginning to end, with implication of the buccal mucous membranes, and in which a fatal termination was the rule. Unna, however, would not classify them thus, but proposes to call them *erythema bullosum vegetans*, a rather meaningless title, while Tomassoli takes the position that they are only akin to pemphigus—pemphigoid—and names them *condylomatosis pemphigoides maligna*. But there is, in my opinion, decided objection to calling the cases of Hallopeau, Wickham, and the one reported in this paper, pemphigus, since in all these the eruption was distinctly pustular or vesico-pustular, with a marked tendency to occur in groups, and in some instances preceded by erythematous patches. The presence of large vegetating plaques which are so striking a feature in both the bullous and pustular forms of the malady, can scarcely be employed as an argument in favor of their identity, or even kinship, since similar lesions may be observed in other affections in which there can be no question of pemphigus. Perrin¹ has recently described a form of papulo-pustular dermatitis in infants in which vegetating plaques were present, and I have seen a large papillomatous plaque occur upon the buttocks as the result of a long-standing eczema of the anus.

If pemphigus, as defined by a well-known author, is a disease characterized by the formation of bullæ, usually without antecedent lesions, then it is difficult to understand on what ground cases of disease in which bullæ are at no time a part of the eruption, can be ranged under this title. If these are to be regarded as pemphigus, then our definition of this malady should undergo a decided revision.

It seems to me not unlikely that we may have to do with two distinct, but probably nearly related, affections; one—the cases of Neumann, Hyde and others—which should be regarded as a variety of pemphigus, the other—the cases of Hallopeau, Wickham and my own—which is nearly related to, if not identical with, *dermatitis herpetiformis*.

¹*Annales de Derm. et de Syph.*, Oct., 1900.

ON THE TREATMENT OF CERTAIN DEEP-SEATED OR
REBELLIOUS FORMS OF DISEASE OF THE FOLLICLES
—MORE PARTICULARLY BY INTRAFOLLICULAR
METHODS.

BY EDWARD BENNET BRONSON, M.D.,
Professor of Dermatology, New York Polyclinic.

OWING to their comparatively superficial location the sebaceous follicles of the skin when diseased, are, to a considerable degree susceptible to the effect of surface applications. They would be more so were their orifices always patulous, but when, as in *acne vulgaris*, they are tight-closed by a plug of sebum, together with an hypertrophied rim of epidermis that of itself partially occludes if it does not produce actual stenosis of the ducts, the effect of lotions, ointments and the like, applied to the overlying surface must be only limited. Doubtless, when such applications are made immediately after curetting, or puncture, a certain quantity of the medicament does penetrate to the interior of the follicle and the action becomes more effective. And who now-a-days thinks of treating acne successfully without the aid of mechanical measures to open and empty the affected and with little doubt infected follicles? Without this aid whatever good the surface applications do is owing in large measure to surface disinfection that tends to limit the spread of the disease from one follicle to another. Many of these applications, too, are modifiers of epidermic growth and indirectly exert an influence over the epithelium of the follicles.

But the follicular trouble is often so deep-seated, or so inveterate or accompanied with such decided structural changes as to require measures that are direct and radical. When deep-seated suppuration takes place as in *acne indurata*, not only must the pus be evacuated, but the pus organisms must be destroyed. A thorough cleaning and disinfection of the pus cavity can only be effected by applications made directly to the interior.

At times a purulent infection develops, often rather suddenly, with a degree of virulence that is not easily controlled. Pustules form rapidly, usually in groups, especially affecting certain areas. No sur-

face application has much effect in cutting the attack short, nor does internal medication give any immediate relief. But if each pustule as it appears is opened at once, its contents extruded and the cavity then treated (as soon as bleeding has stopped), with an efficient disinfectant it is possible, I believe, to arrest the progress of the attack as in no other way.

To select the best disinfectant requires study and discrimination and when selected a special maneuver is necessary to introduce it properly into the follicle. Of the many substances that I have used for this purpose, the most satisfactory have been the soluble cresols and carbolic acid. The one that has seemed to me most effective is the tricresol (a concentrated and purified preparation of the three cresols, ortho-, meta- and para-cresol). But good services have been rendered by lysol, creolin and carbolic acid in glycerin. Either of these preparations may be introduced pure with a tiny swab when the opening is large, but when, as is often the case, the latter is small, it is best to thicken the liquid so as to form a thickish paste which is more easily controlled, less liable to be smeared over, and so burn the surrounding skin. For this purpose I have used nosophen, itself an excellent disinfectant, which is readily moistened and forms a smooth paste with either of the above liquids. As an applicator a small quill (tooth-picks will do), whittled down to a fine flexible point, making a tiny bulb at the tip by touching it for an instant to the flame of a match. This will serve well to hold the paste and to poke it into the diseased cavity. Usually, after one such application the place heals without pus reforming, and the more quickly each pustule can be thus disposed of, the less the danger of the infection spreading to other follicles.

Hypertrophy of the sebaceous follicles of the face attended as it often is, with excessive secretion is a most annoying affection and does not readily yield to the usual methods of treatment. It represents one of the hypertrophic phases of rosacea, though often associated with acne. It especially affects the nose, which becomes red, swollen-looking, is constantly greasy, often showing dark pit-like depressions at the sites of the follicular orifices. It is a different affection from ordinary acne, and does not, like the latter disease depend on excessive thickening of the corneous layer. Instead of the hard, barrel-shaped comedones characteristic of acne, the contents of the follicles are soft and almost diffuent. When the nose is squeezed between the thumb and finger, especially when the rim of the ala nasi is pushed up against the upper border of the cartilage, long worm-like masses of soft, fatty matter well up in copious quantities from the patulous orifices and when a very fine probe

is introduced into a follicle it often penetrates to the depth of a quarter inch or more.

To overcome this anomalous condition radical and rather severe measures are called for. The ordinary and simpler applications for rosacea or acne are of no avail. There is, however, a method of surface application which gives very satisfactory results, provided the change in the structure of the follicles is not too great. It is the so-called "exfoliative treatment." Certainly, by this means the hyperæmia as well as the hypersecretion are in considerable degree abated. The particular remedy which has proven itself most successful in my hands in the employment of this method of treatment has been *resorcin*. It is best used in gelanthum and in the strength of thirty to forty per cent.—usually the latter. It is smeared over the affected surface and drying quickly, it forms a brownish, though not opaque varnish, which at first can be readily washed off, though it is best left on continuously (with daily renewals) till desquamation begins, which occurs after periods varying from two to five days. The varnish is not very unsightly, since it is more or less transparent; it is attended with no discomfort and does not produce too much inflammatory reaction. In all of these respects I find the resorcin preparation superior to those containing naphthol, pyrogallol, carbolic acid and the like which are much severer in their action and are no more efficacious in accomplishing the desired result. It has decidedly a modifying effect upon the epithelial growth, apparently affecting that of the follicles as well as of the general surface, and, furthermore, it acts upon the superficial blood vessels controlling the hyperemia. After exfoliation has taken place, the surface looks a little red for a day or two, but later the skin becomes much paler, and appears smooth and dry; while the follicles remain for a time at least, much less active. Repeated at intervals of a few weeks this method of treatment gives very good results in such cases as have been referred to, as well as in cases of rosacea generally. Furthermore, I have found it superior to all other methods of treatment in that most capricious and rebellious of diseases—*lupus erythematosus*.

But, as already intimated, when decided structural changes have taken place in this seborrhæic form of rosacea the exfoliative treatment is not sufficiently radical. Whatever benefit results from it is only temporary. It then becomes very desirable to find some means for introducing a powerful agent, escharotic or other, into the diseased follicle that will either destroy the secreting surface or else so modify it as to induce a more normal operation of its secretory function. Ordinary caustics are not very practicable for this purpose, because of

the difficulty of passing them by the orifice of the follicle so as not to waste all their caustic effect there rather than on the interior.

By means of electrolysis, the introduction of a strong modifying agent to the interior of the follicle is perfectly feasible. For this purpose however, the pointed needle is objectionable because of the danger of engaging it in the sides of the follicle before reaching the bottom. Something more probe-like is required. A bit of fine platinum or steel wire with rounded end answers the purpose best. The ordinary platinum needle may be used if reversed in the handle so as to use the blunt end, which should be smooth and well rounded. With this the follicle may be accurately probed and the current brought to bear at any desired point. The strength of the current will depend upon the patient's tolerance. Usually, about the same strength will do as that used for the removal of hair, but should be more prolonged than for the latter purpose. On an average a full minute should be given to each follicle. The process is a tedious one, and some little difficulty will be experienced in mapping out the field of operation so as neither to omit certain follicles nor go over others a second time. The follicles, however, are always grouped in more or less distinct figures—like little constellations—by studying which, the different groups may be identified and kept distinct. The day after the operation the follicles appear slightly inflamed, with a little purulent secretion often, but they soon dry up and the after effect is almost invariably good, and though it may not be absolutely permanent, it is a more abiding one than after any surface treatment, even the exfoliative. Perhaps the best results follow a combination of the treatment by exfoliation and that by electrolysis employed alternately at such intervals as the case may require.

Society Transactions.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Held in Chicago, May 30 and 31 and June 1, 1901.

FRANCIS J. SHEPHERD, M.D., *President*.¹

On the Cause of the Streaks in Linear Nævus². —By D. W. MONTGOMERY, M.D., San Francisco.

DR. GRINDON.—I would like to ask the reader whether the microscopic appearance of these lesions resembles that of ordinary moles.

DR. D. W. MONTGOMERY.—Yes, it was what you would call a linear nævus where the papillæ of the skin were enlarged.

Dr. Fox's case suggests one by Veiel. Instead of the streaks going downwards, as one would expect if the lesions followed the nerves or the trend of the tissues, the direction of the line is upward and the nævus is rounded as though it had been pulled out in the elongation of the fetus.

DR. FOX.—I have been quite interested in the extraordinary distribution in this case of linear nævus, but at the same time it has seemed to me that the lines tended to follow the lines of cleavage in the skin, even in that portion where the nævus runs up on the abdomen. If you study it very carefully you will find that there are small groups of papules or excrescences following a number of the cleavage lines. These groups are very plainly to be seen even in this picture. If you examine them you will find that the long ones almost invariably correspond with the cleavage lines of the skin. In one of these two pictures, which shows the affection on the neck, a very common location for these lesions, the entire growth does not follow the cleavage lines of the skin, but the small sections of it do. I have never examined the case with that idea in view, but I think you will find that the long axis of the small groups of excrescences almost invariably follow the direction of the cleavage line. The relation to nerves and the distribution of blood-vessels is, I think, an assumption.

A word in regard to the name of this affection, I think the term nævus unilateralis is absurd, as the affection is so often seen upon both sides of the body. The term nerve nævus is also a misnomer if we remember that it has absolutely no relation to the nerves. The term nævus linearis, as used by Dr. Montgomery, is certainly a good one. It produces no confusion when one speaks of it in that way, but at the same time the term nævus is applied to a number of distinct affections having no relation whatever to each other, and is objectionable as a generic term. Assuming that the disease is an hypertrophic affection beginning in the papillary layer of the skin, I have taken the liberty to label it "papilloma lineare."

I would like to say a word in regard to the relation of this disease to ichthy-

¹For President's address, see August issue, 1901.

²See p. 455, October, 1901.

osis. I think cases have been reported as ichthyosis hystrix. A number of these cases, it seems to me, have been cases of papilloma lineare, an affection which has absolutely no connection with general ichthyosis. Such cases have been exhibited in various side-shows all over this country. The case of the "alligator boy," which I reported some years ago, and the case reported by Dr. Yandell as the "man fish of Tennessee" were genuine cases of general ichthyosis or keratoma. But cases of "porcupine men" and others reported and which I have not had the pleasure of seeing, were undoubtedly cases of linear nævus and not cases of ichthyosis hystrix.

DR. J. C. WHITE.—It seems to me that some of these reported cases of ichthyosis hystrix were really cases of nævus linearis. I agree with Dr. Fox in that respect.

DR. GRINDON.—On several occasions I have seen an arrangement of papillomata apparently directly in the line of the first branches of the fifth nerve. This, however, may have been only a coincidence.

DR. D. W. MONTGOMERY (closing the discussion).—That photograph by Dr. Fox has somewhat the appearance as if the angle mentioned by Werner and Alexander was present, but placed farther back. Speaking of the idea of the streaks being distributed along the cleavage lines, I have thought of that. In the manner you indicate, however, it would suggest that the figures on the abdomen of all three cases are the result of chance, but, I can hardly imagine that three such cases as Jadassohn's, Alexander's and mine would occur in such a short time and all be owing to chance. They all have the same angle so curiously pointed upward. I admit that the down-going arm of the line on the abdomen is in the line of cleavage, but it is a curious fact, one which I fail to understand if owing to chance, that the angle in all three instances should occur where it does. You see it rounds beautifully in this photograph, and there just as much so (indicating), and in this other case equally so (indicating). I do not believe that it would have this appearance if the lesions were scattered along cleavage lines by accident, each little set of lesions being on a cleavage line. I do not see how it could give that curve in that peculiar way. The curve looks as though it might have been made with the sweep of a pen.

A great many more facts ought to be noted and photos taken of cases of linear nævus. It is the only way in which we can come to any conclusion as to the arrangement of these lesions, and I am quite sure that they ultimately will tell us something about the history of the fetus. They are an indication of what has been going on in the uterus during fetal development. There must be some anatomical reason for the peculiar arrangement of the lesions.

Lichen Planus as a Vesicular or Bullous Disease.—By C. W. ALLEN, M.D., New York.

In his consideration of this subject, the writer does not claim that lichen planus exists exclusively with moist lesions nor that the latter predominate, but he is convinced that lichen planus bullosus can at times be developed at will. Prompt and vigorous treatment in the beginning stage of the disease will prevent the eruption from becoming generalized or from spreading locally. A case of generalized lichen planus, in a young lady, was reported. At no time, in the course of treatment, was arsenic given, but the lesions were vigorously curetted as soon as they formed, or they were transformed into either blood or water blisters, which disappeared just as rapidly as did the curetted lesions. The author

also mentions a variety of lichen planus in which pemphigoid bullæ appear. He says that this is seen only in poorly nourished patients.

DR. ZEISLER.—I was looking forward to this paper with a great deal of expectation and interest because I flattered myself that I was fairly well acquainted with lichen planus, and therefore Dr. Allen's presentation of lichen planus as a vesicular or bullous disease was entirely new to me. I would not doubt his observations at all, but am rather inclined to differ from his interpretation of what he saw. Lichen planus is rather a common affection, and one so well understood that it seems strange that careful observers like Kaposi and others make no mention of such an occurrence. I think it is perfectly evident to us all that the vesicular or bullous lesions in the cases of Dr. Allen must be looked upon as by-products, due to the method of treatment and do not belong to the natural course of the disease. It is a well-known fact that two skin lesions are liable to exist at the same time. It is not necessary that the existence of one disease should exclude the other. There is no question but that we can by scraping or other artificial means bring about a condition such as Dr. Allen observed in his cases.

If there is any disease in which the administration of arsenic is speedily followed by an eruption of vesicles, it is lichen planus. I have never seen bullæ, however. I should be very much interested and pleased to hear from others as to whether they have ever observed vesicles or bullæ in this disease.

DR. KLOTZ.—Dr. Allen's paper has by no means convinced me that the bullæ in his cases of lichen planus were indigenous to the lichen. On the contrary, I believe that they were more or less artificial. You must always expect more or less itching in these cases and that means that the patient will scratch. He often scratches himself much more effectively than the doctor can do with a curette. As the result of this scratching or curetting a condition as described by Dr. Allen is most likely to develop.

DR. HARTZELL.—It seems to me that from the evidence in the literature on this subject we must admit that there are certain cases of lichen planus in which vesicular and bullous lesions occur independently of the administration of arsenic. On the other hand, there is no doubt whatever that in the great majority of cases in which bullæ occur, the bullous eruption is due to the administration of arsenic. This subject has recently been reviewed very carefully by Bettmann, and these are the conclusions he arrived at. We are altogether too apt to jump at the conclusion that these are drug eruptions, and it is therefore well for us to remember that these eruptions do occur independently of arsenic or any other drug.

DR. STELWAGON.—I have never seen a case of lichen planus accompanied by vesicular or bullous formation. It seems to me that such manifestations can usually be attributed to one of three causes: medicinal, traumatic, or accidental. The first is not an uncommon factor in some bullous eruptions; the second a possible one in those of sensitive skin, and could have been the cause in Dr. Allen's first case, in which there was a tendency to epidermolysis; as to the third, these patients are usually neurotic, in whom vesicles and bullæ, especially about the palms or soles, are not such a great rarity.

DR. J. C. WHITE.—I have never seen a case of bullous efflorescence occurring in the course of lichen planus, but I think that this is a disease which seems to have a very close association with other forms of dermatoses. I have seen lichen planus occur three times in connection with syphilis when inunctions were being used. I have also seen it occur after or in the course of a psoriasis, three or four times. I have seen it occur twice immediately following, and before the cure was

quite completed, of pityriasis rosea. It seems to me, therefore, that lichen planus does have a close relationship with other diseased conditions of the skin.

DR. BRONSON.—I would like to call the attention of the gentlemen to one point not mentioned in the discussion of this peculiar condition and that is an apparent paradox with reference to the treatment in some of these cases. That is, the treatment by curettage. It is a well-recognized fact that lichen planus is one of those conditions which is accelerated or provoked by external irritation. I believe that its linear character is not infrequently due to the direction of the scratch. The experiment has frequently been tried in these cases of lichen planus of producing different figures in the skin by irritating it with the point of a pin. It would seem paradoxical that the very method which produces the disease, has apparently, in Dr. Allen's case, acted as a remedy.

DR. D. W. MONTGOMERY.—What appealed to me were the statements made by some of the members that they see a great deal of lichen planus. I see very little of it, but I thought that possibly it was due to the climate or the country. I have been in the habit of narrowing down the diagnosis of lichen planus more and more. Anything that merely resembles lichen planus I do not necessarily call lichen planus. Perhaps that is why I do not see more of this disease. I thought I had a case of lichen planus last year, which I followed up for quite a time. There were characteristic papules which sometimes had a violaceous color, but the patient developed, after a time, some patches of psoriasis. I thought at the time that in all probability the psoriasis was not an intercurrent affection, and am now still more inclined to consider it an atypical case of psoriasis rather than a lichen planus. I have never seen bullæ in any cases which I thought were lichen planus. Just before leaving San Francisco I saw a small papillary syphilide, that looked something like lichen planus. It had very minute vesicles.

DR. POLLITZER.—There are just one or two points that I wish to refer to which have not been mentioned in the discussion. I should like to ask the writer of the paper whether in the disappearance of the lesions provoked therapeutically in his cases any pigmentation remained at the site of the papules. With reference to the appearance of vesicles or bullæ in the course of lichen ruber, we all know that their occurrence is exceedingly uncommon, but I think Dr. Zeisler is mistaken in saying that observers have never before recorded such cases. Kaposi, Lesser, Jarisch and others have reported cases of this kind under the name of lichen ruber pemphigoides.

With reference to the occurrence of herpes zoster after arsenic, it is my opinion that this is a true zoster. Although it may be classed with the drug eruptions it is identical with the zoster that occurs from other, perhaps less known causes. It may, however, effect the nerves in a similar way. The zoster following the ingestion of arsenic is, of course, not limited to the giving of this drug in lichen planus. It has been observed very frequently in cases of psoriasis, and that it is due to the administration of arsenic is very beautifully shown in the reports published by the Copenhagen hospital. They ceased giving arsenic some years ago and substituted potassium iodide in a large series of cases. In none of the cases in which the potassium iodide was used, did zoster occur, whereas, during the arsenic period, zoster was observed in a fairly large percentage of the cases.

DR. FORDYCE.—I do not remember ever having seen bullæ or vesicles in lichen planus. From the anatomical structure of the lesion it is not difficult to understand how they might readily occur. It is a more or less acute inflammatory lesion in the derma and an increase of the irritant might exceptionally give rise

to bullæ and vesicles. I by no means believe that it is impossible for these lesions to occur in the course of the lichen planus.

DR. JOHNSTON.—The character of the infiltration of the disease is lymphocytic, which in the skin is rarely accompanied by bullous formation. There is just sufficient exudation and edema in the tissues so that under the stress of considerable additional irritation, such as curetting or scratching, or the application of chrysarobin the edematous horny layer of the skin is raised.

I wish to bring out another point in connection with the treatment. Some time ago a paper appeared in the JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES on this subject, written by Dr. Lusk, who unfortunately made the mistake of adding as a subtitle to his paper, "The Disease Viewed as a Syphiloderm." I have tried the administration of mercury in five cases of all kinds of lichen planus. One case, which came to me in my service at the Presbyterian Hospital last October, was treated with arsenic, given to the physiological limit, and with Unna's ointment, which, containing mercury, probably owes its efficacy to that alone. For three months the disease spread until there was not a spot that was free except head, palms, and soles. I began treatment with the protoiodid of mercury; because Walker and Lusk have used the bichlorid and the biniodid. I conceived that it was simply the mercury alone and not the particular preparation. I gave the same dose as in syphilis, one and one-half grains in the course of the day. In two months his body was absolutely free from all traces of the disease with the exception of pigmented spots. The treatment is almost as efficacious as any other form of lichen planus. The hornified material in corneous lichen must be removed with the curette or with salicylic plaster, and the mercury will do the rest. The result obtained in these five cases is, of course, hardly sufficient to warrant any positive assertion as to mercury being a specific in this disease, but it is certainly worthy of further trial.

DR. J. C. WHITE.—I would like to ask if cases of lichen planus may not occur during the inunction treatment of syphilis. I had two cases in which it developed in the course of syphilis in a patient who had been using mercurial inunction.

DR. JOHNSTON.—I have never seen such a case, but even in such an event, I should hardly consider the observations invalidated. Syphilis, itself, at times grows worse under treatment.

DR. HYDE.—With reference to the remarks of Dr. Zeisler as to the eruption produced by arsenic, an interesting case was exhibited a short time ago in the clinic of the college, occurring in a child to whom arsenic had been administered. The drug finally produced what was apparently a double zoster; but in my opinion, the zoster on one side of the body was a medicamentous dermatitis and that on the other side was the genuine disease. There was the greatest difference in the appearance between the two. One suggested a drug eruption and the other exhibited symptoms characteristic of the disease in its usual type. While I would not like to lay down the law in this matter, I doubt whether the drug-eruption produced by arsenic is of the true type of zoster.

DR. GRINDON.—What were some of these obvious appearances presented which differentiated the genuine from the drug eruption?

DR. HYDE.—The dissimilarity between the two sides of the chest. One was abortive, not well developed, nor did it have the characteristic appearance of the true eruption on the other side. It was a feeble imitation.

DR. SHEPHERD.—I have had very good results with the ammoniated chloride of mercury ointment in many cases of lichen planus. I had one case recently

where the lesion disappeared following the administration of chalk and mercury. I have never seen mercury produce the lesion.

DR. ALLEN (closing the discussion).—There is one question which I would like to answer, and that is as to the persistence of pigmented spots after the lesions were treated by scraping. They did remain in many places, although not invariably. On the inner surface of the thighs are to be seen pigmented spots corresponding to the lesions which I curetted as long as a year ago. Upon the trunk, where the zoster occurred, there is a pigmented spot in which a number of papules of lichen subsequently appeared a year after the zoster. They developed in the pigmented patch which marked the site of the zoster, while none appeared in the surrounding skin.

Sarcoma and the Sarcoid Growths of the Skin.—By J. C. JOHNSTON, M.D., New York. (See July issue, 1901.)

Leukæmic Lesions of the Skin.—By GROVER WILLIAM WENDE, M.D., Buffalo.

Personal History: The patient, J. B., æt. twenty-six, first seen the 25th of April, 1900. His father died at the age of fifty-eight, presumably of some malignant disease of the bladder, and his mother at the age of forty-eight, from inflammation of the bowels. His four brothers and one sister survive him, and have always enjoyed excellent health. His habits were never vicious; never had syphilis.

Previous History. The original cutaneous tumor began with a slight induration of the skin over the left temple, on December 1, 1899, just five months before he came under my notice. For two months it was confined to the initiatory seat, during which period it attained the size of a twenty-five cent piece. A circumscribed hardness now become apparent in the center of the cheek on the same side, but deeper in the skin. The lymphatic nodes showed enlargement from the first, beginning in front of the ear, and subsequently involving the post-auricular and the inferior maxillary, and, finally, the cervical.

On February the 20th, a number of superficial, irregular, pigmented spots were encountered over the chest, while, at the same time, infiltration manifested itself in close proximity to the left nipple, increasing with amazing rapidity. Associated with this manifestation, enlargement of the lymphatic nodes of the axillæ ensued. Apart from the slight tenderness of the gland, the patient suffered no inconvenience; appetite good; habitually slept well, and continued to apply himself to heavy manual labor.

Examination of the Patient. Upon his arrival at Buffalo, he was examined by Dr. Charles G. Stockton, who pronounced his organs healthy; no enlargement of the spleen discernible. Examination made of the blood by Dr. Albert Woehnert, April the 21st, 1900, with the following results:

Erythrocytes.....	5,128,000
Leucocytes	4,000
Hemoglobin.....	88 per cent.
Lymphocytes (small).....	27 " "
Lymphocytes (large and transitional).....	4 " "
Polymorphonuclear neutrophiles.....	68 " "
Eosinophiles	1 " "

The illustration of the case here presented fairly demonstrates the topography of the multiple formations. The general tint of the skin was like burnt sienna

—fairly well reproduced by the artist. The initial lesion situated on the left side of the face occupying the upper part of the temple, the lower part of the frontal, and the exterior half of the super-orbital region, formed an oval protuberance with its long diameter extending from a point beneath the eyebrow to the hairy portion of the scalp, where the individual hairs were raised like the spines of the porcupine. Its greatest length was seven, and its greatest width six centimeters. It was hard and elevated above the contiguous skin. The whole surface was not only distinguished by a cyanotic tinge, but by numerous hemorrhagic vibices, some in streaks, others cruciform. In the profile of the right eyebrow were two definite nodules about the size of a pea.

The center of the left cheek bore a deep seated infiltration of three and a half to four centimeters in diameter, presenting an unaltered crest.

Seated upon the body, over the sternum, were two lesions measuring relatively ten and twelve millimeters.

In the left infra-mammary region, approaching the mesial line, were two growths about the size of a filbert. On the left breast a large patch had formed, surrounding the nipple, similar to that situated on the temple. The areola of the nipple had disappeared. The surface of this patch was greatly elevated, and was oval in outline, with a long diameter of twenty centimeters; it was quite hard, easily displaced and reticulated in appearance, except at its center and lower edge, which were shrouded with vibices. Situated on the lower portion of the abdomen were seven distinct and deeply seated nodules, varying in size from a pea to hickory nut. The peculiar features of all the lesions are, of course, not visible in the photographic reproduction.

The whole chest and back were mottled, showing numerous well-defined pigmentary stains and variegated blotches of different shapes and sizes. The prevailing color was a chocolate yellow or a tawny brown. Barring the discolorations, the epidermis was seemingly normal.

There was a decided hypertrophy of all the prominent superficial glands. The first to show any appreciable increase were the two anterior to the left ear, just above the parotid. From this moment all the others rapidly, almost simultaneously, enlarged. The post-auricular of the left side suddenly attained the size of a hazel nut, and was very sensitive. The post-cervical soon assumed the dimensions of a black walnut. It was not sensitive. The entire cervical group was augmented. The sub-maxillary glands were also enlarged, but not sensitive to palpation. The glands of the trunk, with the exception of the epitrochlear and inguinal, were more or less involved, and possessed uniform sensitiveness. The left axillary was the largest, the size of a walnut. On the whole, this hypertrophy of adenoid tissue was greater about the head and neck than upon the trunk, and less upon the lower extremity. The magnitude of the glands of the right side was not more than one-half that of those on the left side.

A few days after the patient was first seen, the lesions just described began to increase in size. The primary lesion was removed under cocaine. Its exact histology will be described later; it is now merely stated that it was of a lymphomatous character. The patient was given Fowler's Solution hypodermically, in increasing doses. This treatment apparently resulted in improvement, although temporary enlargement of the lymph-nodes was noted from time to time. About July 10th, three weeks before death, the patient's condition underwent a marked change. New enlargement of the lymph-nodes began to appear.

Petechial hemorrhages were seen which rapidly increased in number and extent, but were limited to the trunk and arms. The residuum of pigment from the hemorrhages united with the primary pigment, discoloring the entire chest. The mucous membranes were pale; patient weak and drowsy. Examination of the blood showed: Hemoglobin, 40 per cent.; red-blood corpuscles, 1,936,000 per cubic millimeter; leucocytes, 34,000, 95 per cent. of which were lymphocytes; temperature normal; pulse 110; spleen somewhat enlarged; urine not remarkable. The glands rapidly enlarged, the purpuric eruption became more marked and the general condition more feeble. On July the 21st, the red-blood corpuscles were 1,776,000; leucocytes, 45,000; lymphocytes, 95 per cent. On July the 26th, an ulcer, the size of a five-cent piece, appeared on the right tonsil. Both tonsils had meanwhile become influenced by the general lymphatic condition. Bacteriological examination of the ulcer showed a streptococcus infection. The temperature at this date was 100, pulse 140. The lymphatic involvement began at the same time to subside, while the amount of uric acid excreted showed increase, being on July the 27th, 1.44 grammes; July the 28th, 2.64; July the 29th, 4.94. On July the 30th, the number of red corpuscles was 803,000, while the leucocytes showed an extraordinary diminution, even to 600 per cubic millimeter; of these, about 90 per cent. were lymphocytes. A subsequent examination of the blood, made just before death, showed only 600 leucocytes per millimeter. The phenomena accompanying the patient's death were not remarkable, being those attending gradually increasing weakness.

Autopsy. At the autopsy, which was made eight hours after death, besides the lesions of the skin already described, a general enlargement of the lymphoid structures was noted. All the thoracic and abdominal lymph-nodes, the thymus gland, the Malpighian bodies of the spleen and the lymphoid structures of the stomach and intestines were enlarged. Aside from the dropsical condition and pallor of the organs, nothing of great importance was discovered.

Bacteriological Examination. Portions of the original tumor inoculated into dogs produced no results. Bacteriological examination of the tumor by cultures failed on account of contamination. Examination in sections of the tumors removed during life for bacteria, and that of the blood for the parasites described by Löwit, were negative. The ulcer on the tonsil was due to a streptococcus infection. Cultures made from the important viscera at the autopsy showed streptococci, and sections of the organs revealed numerous emboli of the same. It appeared, therefore, that there was a general streptococcus infection shortly before death, and the tonsil was doubtless the point of entrance.

Histological Examination of Cutaneous Lesions Removed During Life. The primary and other tumors of the skin were entirely composed of lymphoid cells embedded in a fine, connective-tissue reticulum, shown by Mallory's method. No mitoses were seen. Numerous masses and granules of yellowish pigment occurred about the tumors, both free and inside large cells, probably connective-tissue cells. Elastic tissue formed no important part of the reticulum. The hair-follicles and glandular structure were atrophied, apparently from pressure. The reta-mucosum was infiltrated with lymphoid cells. Certain small bodies, deeply stained with hemotoxylin, were encountered; probably degenerated nuclei. These may be the same as the parasites common to such tumors, and described by many writers.

Histology of Internal Organs. The hyperplasia of the lymph-nodes was indicated by the obliteration of their sinuses, which were packed with lymphoid-

cells; these were also seen apparently passing from the outer part of the lymph-node into the capsule and the surrounding structures. Numerous small hemorrhages appeared in the lymph-nodes, and there was much pigmentation. A very interesting feature was the frequent occurrence of cells much larger than lymphoid-cells, presumably endothelial in origin; these frequently contained two or three, and, sometimes, many nuclei. These cells occasionally showed red corpuscles, lymphoid-cells or pigment, and were supposed to be phagocytic; they were also abundant in the spleen. The lymphoid structures displayed areas of nuclear degeneration and fragmentation. Although the nodes contained emboli of micrococci, the areas of fragmentation showed no relation with the bunches of cocci. It may be presumed, therefore, that the degeneration was due to toxin formed by the micro-organisms upon the cells. The collections of lymphoid tissue of the mucous membrane of the bronchial tubes and the alimentary canal were increased. There were also small areas of lymphoid infiltration in the liver and kidneys. The latter did not, however, constitute a distinct tumor-like formation.

DISCUSSION.

DR. JOHNSTON.—I think Dr. Wende's case is about the only one of undeniable lymphatic leukemia of the skin that has ever been reported. Of course, nothing can be said about cases unaccompanied by a marked leucocytosis; they do not mean anything. I think the speaker makes a mistake in classing his case with those reported by Oertel, Kreibich and Nékám, for the reason that myelocytes and polymorphonuclear neutrophiles were found in large numbers in all of the three cases reported.

I should like to ask what is meant by the statement that the lesion on the temple was the point of entrance. These conditions are probably diseases of the blood-forming organs. If I understand him correctly, the author said that the infective agent gained entrance at the temple and then set up the disease producing a tumor at the point of entrance. I do not suppose that he can possibly mean an initial lesion as in syphilis. I do not see why he should not go out of his way to say that the condition is a Hodgkin's disease in the beginning. We are all well acquainted with the fact that lymphatic leukemia, whether producing skin lesions or not, has certain periods of remission, in which all the symptoms, including leucocytosis disappear. I think that when the case was first seen, it had either not developed leucocytosis or it had passed into one of the periods of remission.

From what Dr. Coley said to me a short time ago, I am convinced that he has absolutely given up the use of his toxin in the treatment of lymphoma, lymphemia, and Hodgkin's disease. It is a comparatively easy matter to differentiate lymphemia from Hodgkin's disease when you have a blood count that shows an increase in the number of leucocytes. When you do not find this, it is practically impossible to make the diagnosis. Both conditions can in the event be differentiated from lymphosarcoma, because the lymphocytes do not proliferate in the tissues in a lymphatic leukemia, and they do in lymphosarcoma. Pinckus certainly is mistaken when he describes local proliferation of white cells lymphemia, and giant cells as being a part of the process.

DR. WENDE (closing the discussion).—With reference to the lesion upon the temple, I intended to say that I believed it was initial for the reason that it existed three or four months before the patient showed any signs of the disease else-

where. When the further evidences of the disease finally made their appearance, the glands in the immediate vicinity of the primary lesion were first involved. From that site the disease spread with moderate rapidity to the other portions of the body. I think, in view of these facts, that I am justified in saying that the spot on the temple may have been the starting point of the disease.

The suggestion made by Dr. Johnston that all cases reported heretofore, represented the myelogenous variety in which tumor formations were present in the skin is interesting, although I am not positive upon this point. I think, however, that Pinckus' cases were of the same variety as my own.

Preliminary Note Relative to a Rare Dermatosi.—By J. N. HYDE, M.D., Chicago.¹

The author presented the history of a case in which there were recurrences, at irregular intervals, of odd-looking plates all over the surface of the body. They were slightly elevated, had a roundish border, and slippery to the touch when the finger was passed over them. The diagnosis of this condition is exceedingly doubtful, although the author feels that it is probably not parakeratosis variegata. It was apparently a purely superficial dermatosis, and its color suggested somewhat tinea versicolor. The affection is evidently an extremely rare one, as but few dermatologists have seen a similar case. The author saw one case like it in Paris during the meeting of the International Dermatological Congress, and none of the prominent dermatologists present were able to make a satisfactory diagnosis.

DR. J. C. WHITE.—I would like to ask whether these colored patches have varied any under observation; whether they are absolutely permanent or whether they come and go, and whether they vary any in size.

DR. HYDE.—I don't think they enlarge, but they disappear partially.

DR. WHITE.—Is there ever any erythematous condition?

DR. HYDE.—Not the slightest.

DR. ALLEN.—Resembling what disease?

DR. WHITE.—Brocq's disease.

DR. POLLITZER.—The fact that the dermatologists present at the International Congress differed as to the diagnosis of the case in Paris, merely suggesting what it might be, vouches for the rarity and unusual character of the disease. It seems to me, however, that while the diagnosis of parakeratosis variegata might have been justified in the case in Paris, but it would hardly be justified in the case presented by Dr. Hyde, simply for the reason that the lesions disappeared spontaneously. The spots came and went. In the cases of parakeratosis variegata that we observed in Hamburg, to which the reader has referred, the lesions were fixed and permanent, and though they disappeared under treatment, it required treatment of the most energetic kind to produce any effect. I have been informed that there was a recurrence of the disease in one of our cases. The disappearance of the lesions under so mild an application as potassium permanganate, strikes me as in itself affording sufficient reason for the diagnosis of parakeratosis variegata with the greatest hesitancy.

DR. HYDE.—In my paper I called attention to the marked difference between my case and parakeratosis variegata.

DR. J. C. WHITE.—I think that the cases which Dr. Shepherd saw in Scotland, possibly resembled those which I presented as Brocq's disease.

DR. HYDE.—The two cases which I saw differed very much from parakera-

¹Will be published in full.

tosis variegata. One of the Scotch cases was so red that it might easily have been mistaken for what the Parisians call *homme rouge*. There was absolutely no redness in my case.

DR. SHEPHERD.—The cases I saw in Scotland were entirely different from the cases reported by Dr. White.

Discussion on Smallpox.

DR. GRINDON.—The question was asked as to the influence of vaccination on the course of smallpox if done after infection had occurred. It is well to remember what Marson says in this connection. He says that inasmuch as vaccinia requires eight days in which to develop the areola, and the ordinary period of incubation of smallpox is thirteen days, there is left five days in which we can work out the patient's salvation after he has received the infection. Suppose the patient has been infected on Monday and is vaccinated on Wednesday. That may still be in time to prevent the development of the disease. If he is vaccinated on Thursday, he will probably develop smallpox, but in a modified form. If he is vaccinated as late as Friday, it will probably have no effect on the variola.

I would like to say a few words about the peculiar character of the disease which we have had recently. It has been seen all over this country, and it is worth our while to note that we are seeing something different from what is described in text-books. We have been having a great many cases of the mildest form of smallpox in unvaccinated individuals. I saw three or four cases recently, with Dr. Hardaway, in one family, one a miserable, puny, little, bottle-fed, five month's old unvaccinated baby, at about the seventh day of the eruption. It had a temperature of about 99, and was comfortably nursing from the bottle, being apparently quite happy.

I also saw, in December, a colored man out in his front yard chopping wood on the eighth day of the eruption. I told him that he had better go to bed, but he said that he was not at all sick. When I told him that he had smallpox, he said that he had nothing but the itch. These cases are only a few of the number I have seen, but they will suffice as examples of the peculiar form of smallpox which exists throughout the country at the present time.

DR. HYDE.—I am pleased to hear Dr. Grindon refer to the cases of modified smallpox which have been met with all over the country. We have seen a large number in Illinois, and reports of cases have been published in Pennsylvania, Ohio, Indiana, Kentucky, many of the eastern and western states, and even in the western territories. I should be pleased if the New Yorkers, who have, undoubtedly, seen examples of these modified cases, could have shown some illustrations of them.

Dr. Pollitzer has illustrated a point which is occasionally quoted against the diagnosis of these cases of smallpox, namely, that while the umbilication of the vesicle is sometimes very significant and characteristic, it is at other times, especially in these modified cases, entirely wanting. The entire body may be covered with closely set umbilicated vesicles, and yet none of the modified cases I have seen with marked development of the pustule after the vesicular formation, exhibited the slightest tendency to umbilication. The peripatetic cases which the doctor has mentioned are very striking. In some districts in Ohio, Missouri, Illinois, and some of the states west of us, patients affected with modified smallpox have been going to school and attending churches and places of public amusement with unmistakable evidences of the disease on the person, something which

has not happened in this country for a long while. The oddity of the modified form of the disease is striking. It is variously termed in the west, "Porto Rico chickenpox," "Cuban itch," "Spanish measles," etc.

DR. SHEPHERD.—We have had an epidemic in the Province of Quebec and Ontario very similar to that in the west, with only about one per cent. of deaths. It was this same peripatetic form mentioned by Dr. Hyde, on this account it was almost impossible to control it. At the same time another epidemic started in Vancouver which was brought from the east. It was very much more virulent, nearly 50 per cent. of those attacked dying, showing that they were quite distinct epidemics.

DR. POLLITZER.—We have had quite a large number of cases of smallpox in New York, about a thousand or more since the middle of last November, when the present outbreak began. In this number I do not include the cases sent to the Riverside Hospital in New York from the Borough of Brooklyn and other parts of the greater city, which would bring the total number of cases up to about 1200. All varieties and degrees of the disease have been seen, but the epidemic on the whole, as compared with epidemics of previous years, has been a rather mild one. In the great epidemic of 1875, in which one case occurred in every 300 of population, the deaths were about 45 per cent. The mortality in the present outbreak is very much less than that; not more than about 16 per cent. At first the cases were very mild, but now the disease seems to have become a little more virulent. Most of the deaths have occurred amongst unvaccinated children and elderly people.

In New York the peripatetic cases have been quite numerous, but I doubt whether they are very much more numerous than generally. I think there are more people to-day who can recognize smallpox when they see it than there were thirty years ago, and that may account for the fact that apparently more of these cases occur. I have seen several cases that showed only half a dozen lesions, that were, however, absolutely characteristic of the disease.

I have one case in mind that I saw two weeks ago, in a person who had never been vaccinated. It occurred in a mulatto, who had one or two lesions on the soles of the feet and there seemed to be an abortive rash, not enough to make a positive diagnosis, on the forehead and a few just coming out around the ankle. The man said he had had some fever and headache a few days before the rash appeared, and that these symptoms disappeared completely when the rash set in. But for this history, the diagnosis would certainly have been exceedingly doubtful. As it was, the case was held under observation for more than a week, but he was finally sent to the Riverside Hospital, where all the smallpox cases are sent. Most of the Health Department experts saw the case and declined to express an opinion. The diagnosis, however, was corroborated by the fact that this man, who said he had never been vaccinated, and surely had not been since he was an infant, as there was nothing to be seen but the merest suspicion of a scar, was vaccinated on his arrival at the hospital, and the vaccination did not take. Three days later, when it was evident that the vaccination would not take, he was vaccinated again, and a great deal of the excellent virus made in the Vaccine laboratory of the City Health Department, was vigorously rubbed into the several regions scarified, but again without success. This is a test which I think should always be made in suitable cases when the diagnosis is doubtful; a test which we have employed a number of times with eminent satisfaction.

As for cases in infants who have not been vaccinated, the rule is that they do very badly and die early in the disease. That, however, has by no means been invariable. I have seen a number of cases of the mildest kind of smallpox in very young unvaccinated children. Whether there has been during all these years of vaccination an attenuation of the disease, or whether the smallpox virus is losing its virulence, it is, of course, too soon to say. In conclusion, you will permit me to emphasize the importance of constant reiteration to our patients of the necessity for vaccination. We must insist on it again and again, for by vaccination alone can we ever hope to eradicate definitely this once most dreaded and still most horrible of all diseases.

DR. GRINDON.—I am glad to hear the doctor say that in New York there are more people who recognize smallpox than there ever were before. That is not the case in Missouri. It seems to me that they know less about it now than they ever did. I have twice attended individuals through two attacks of smallpox, and I also know that a vaccination will take in an individual who has had smallpox and the smallpox will develop along with the vaccination.

DR. POLLITZER.—I should like to ask Dr. Hyde whether he will vouch for the correctness of the statements made by the Louisville physician as to whether the vaccinations really did "take." You know that vaccinations take in different ways—in the minds of different people. Many people think that the vaccination is good if the arm swells up and gets very sore. Of course, that has nothing at all to do with it. In the cases referred to, there may have been an accidental infection with other organisms, at the time of the vaccination, that made the arm very sore, but had nothing to do with vaccinia.

Another question which suggests itself is the duration of the protection or immunity afforded by an attack of smallpox. I have seen three cases of smallpox in people who showed very definitely that they had had smallpox when they were children. One case had it twenty years ago, and another twenty-five years ago; in the third, the former attack had occurred about fifteen years before. They had not been vaccinated since; and their second attack of smallpox, though very mild in each case, was sufficiently marked to leave absolutely no doubt about the diagnosis. It is well to remember that an attack of smallpox does not confer immunity for an indefinitely extended period. The popular notion that one attack is an absolute protection against another is, of course, not true, for smallpox any more than for any other infectious disease.

DR. HYDE.—This is a most important question. I note in a reputable medical journal that a Louisville physician connected with a smallpox hospital, reports the successful vaccination of two colored men during convalescence from smallpox. I have in a number of instances vaccinated successfully after an attack of varioloid. Of course, there are vaccinations and vaccinations, and I doubt if we can get a typical vesicle with an areola after an attack of variola vera.

DR. SHEPHERD.—During the smallpox epidemic in Montreal, it was a common occurrence for people to get a second attack of the disease, and in many cases, where the individual had suffered from a previous well-marked attack of smallpox, the vaccination took again.

DR. POLLITZER.—As I have already said, the duration of the period of immunity conferred by vaccination or by an attack of smallpox, has not been definitely settled. I have thought that one way to get at it would be to vaccinate a large series of cases that had recovered from smallpox and see how soon after we could get the vaccination to take.

Two Cases of Papular Disease Affecting the Axillæ, with Pathological Report.¹—By DRS. GEORGE H. FOX and JOHN A. FORDYCE, of New York City.

The papular lesions in these cases had the appearance of a hyperkeratosis extending into the sweat glands and hair follicles. The hair-producing power of the follicle was completely destroyed. The stratum corneum was considerably thicker at the opening of the ducts, which seemed to be filled by a horny concretion. This plug appeared to be chiefly of epidermal origin. There was a considerable degree of acanthosis present. The lesion was characterized by an extremely slow growth. The cell infiltration was seen to consist of a large number of lymphoid cells, and a few polynuclear leucocytes. They were to be seen chiefly around the vessels accompanying the sweat ducts. The disease has many of the characters of parakeratosis.

DR. WENDE.—When I was with Dr. Fox a few years ago, I saw a couple of cases in which the disease was located in the same region. I also saw a couple of cases, one a very light case, in one of the clinics abroad. This light case came to the clinic once or twice a week and complained bitterly of intense itching. The lesion and location were exactly the same as in the cases reported by Dr. Fordyce.

A Case of Dermatitis Vegetans.²—By M. B. HARTZELL, M.D., Philadelphia.

DR. FORDYCE.—I think Dr. Hartzell's case has some points of resemblance with a case I presented before this Society some years ago. My case had some of the features of impetigo herpetiformis; there were scattered lesions all over the body, consisting of vesicles and pustules with rounded outlines. In the axillary regions papillomatous masses developed, somewhat similar to those described by Dr. Hartzell. These papillomatous masses did not appear until after the development of the vesicular and pustular lesions. Later on they also appeared in the groin. They were not so pronounced, however, as in the case reported by Dr. Hartzell.

DR. WENDE.—I have had a case which bears some resemblance to that reported by Dr. Hartzell (showing photograph). My case was a child, and the affection had existed as an eczema for about six months previous to the secondary condition which began as papulo-pustular eruption. As the base of the papule developed, the pustule would disappear, and the lesion would take on the characteristics of large round vegetating plaques. The location referred to by Dr. Hartzell was not at all affected in my case, the lesions being entirely limited to the scalp and face. The duration was very short, the affection quickly responded to antiseptic treatment. I excised a portion of the tissue and made a microscopical examination.

A Brief Report of Two Hitherto Unrecorded Cases of Blastomycosis of the Skin. Further Report of a Previously Recorded Case of Blastomycosis of the Skin: Systemic Infection with Blastomycetes: Death: Autopsy.—

By DRS. MONTGOMERY and WALKER, Chicago.

DR. D. W. MONTGOMERY.—I saw these cases of Rixford and Gilchrist which the doctor refers to, and I doubt if their death was hastened by the use of the curette. There have now already been reported four of these cases; two by Rixford and Gilchrist, one by Moffitt and Ophüls, and one by myself. I now have under observation another case of what I believe to be the same disease. The micro-organisms in these cases do not appear to be blastomyces, as none of the investigators have found budding forms. In one of them, the case of

¹Will be published.

²See page 465, October, 1901.

Moffitt and Ophüls, a fungus was cultivated. A fungus grew in a culture taken from my case, which in its gross appearance resembled that afterwards found by Moffitt and Ophüls, but I threw it away without further examination, as I thought it simply a fouling of the tube. In the case which I now have under observation, both Dr. Simon Flexner and Dr. Novy tried to make cultures, but failed. My assistant in San Francisco, also tried and failed, and so did I. They all ended fatally, except the one which is now under my observation, in the practice of Dr. Campbell Ford, and which has not yet been reported. This patient has had the disease for quite a long time, and he is constantly getting worse. These California patients all came from the valleys radiating out from San Francisco. It would appear from Moffitt's and Ophüls' cultures that the organism is a fungus. The way they found the fungus was as follows: They made cultures from their patient. These cultures were at first thought to be fouling of the tubes. Guinea-pigs were also inoculated with material from the patient. These guinea-pigs took the disease, and the circular micro-organisms were demonstrated in their tissues, but no fungus. Cultures from the guinea-pigs gave, however, the same fungus as were before obtained from the patient. This fungus appeared so constantly that it was decided to inject some of it into a guinea-pig, with the result that it got the disease in every respect as if injected with material directly from the patient.

DR. GRINDON.—Were Gilchrist's first cases due to that same organism you speak of?

DR. MONTGOMERY.—That was this difference between them. Moffitt and Ophüls' case differed from the other three in having no skin lesions; in all other respects, I think they were similar.

DR. J. W. WALKER (closing the discussion).—I merely referred to this case because of the clinical bearing it had. Death following so soon after operation, after the disease had existed for so many years, might lead one to believe that the operation had some effect in hastening death. In regard to the protozoan being the organism which causes subcutaneous lesions and the blastomyces causing cutaneous lesions, I believe that in the Bussy case there were no skin lesions up to the time of the operation upon the tibia; that could with assurance be ascribed to the general condition.

DR. F. H. MONTGOMERY (closing the discussion).—This case has again been brought before the Association for the sole purpose of reporting a case of systemic infection with blastomycetes, this being the only case beside the Busse-Buschke case in which there was involvement both of the skin and of internal organs. These two cases form a sort of connecting link clinically between the other cases of blastomycosis of the skin and the cases of protozoan infection.

The organisms found in blastomycosis of the skin vary somewhat and behave differently on different media. The majority of them multiply both by budding and by the formation of mycelium. Two organisms now under observation produce also on certain media an abundant growth of aerial hyphæ, while under other conditions one of these organisms developed bodies closely resembling protozoa, in that they contained numerous spherical, highly refractive bodies, which would pass readily for spores. The exact nature, however, of these spore-like bodies is as yet undetermined.

The Pathology of Prurigo.¹—By DR. OSCAR H. HOLDER New York City.

The author has made a very extensive study of the pathology underlying

¹Will be published in full.

this condition, and has found the sections to contain enlarged erector pili muscles attached to lanugo follicles, a considerable exudate, together with changes in the Malpighian layer of the skin. The most important thing is to determine the condition of the muscle. The papule itself has an urticarial basis. The theories of its development are, first, that the condition is dependent on an abnormality of the corium; and, second, that it is due to some local change in the epidermis itself. The erector pili muscle is not only hypertrophied, but also contracted, which contraction in part gives the muscle the appearance of an hypertrophy. The papule itself is supposed to be due to a spastic condition of the muscle, although Unna says that every prurigo papule has an urticarial basis. Faulty innervation is probably the underlying factor of the disease.

DR. BULKLEY.—I think a very important subject for us to decide is whether we are satisfied that the disease prurigo really does exist here. It has been before this Association, and the New York Dermatological Society many times, and we have had cases presented upon which there has been a considerable difference of opinion; but occasionally cases have been shown which have been accepted as cases of prurigo. I would like to inquire whether this could not be made a topic for discussion at our next meeting in Boston. Our Boston confrères could probably work up some cases for us. I have seen these cases to which Dr. Holder refers, and if they are not prurigo, I do not know what they are. It is not an ordinary chronic urticaria, nor is it an eczema; in fact, it is like nothing else. I rather agree with the doctor as to the diagnosis, but I believe that these cases are somewhat different from the disease as originally described by Hebra, not presenting the various features which Hebra dwelt upon so beautifully.

DR. ZEISLER.—This is not the first time that this subject has been up for discussion before this society. Dr. Bulkley was not present in Boston in 1889 when I brought it up. A typical case was shown then and the discussion on it was exceedingly lively. I believe that that discussion in Boston had a great deal to do with the change of opinion among American dermatologists. R. W. Taylor of New York, afterward took the matter up with special reference to the histology and I am very glad indeed to see Dr. Holder's work, which shows that we are correct in recognizing this disease as an independent malady. The little cyst formation in connection with the sweat ducts has been dwelt upon considerably by German pathologists, and I do not remember whether Dr. Holder referred to it.

DR. CORLETT.—This subject of prurigo is a very interesting one, and I have but very little to say about its etiology or pathology. So far as my own observations go the disease is always at its worst over such parts of the body as have been subjected to frequent and continued friction. In regard to the prevalence of the real prurigo of Hebra in this country, I think there is no question but what we have cases which correspond to those described in Vienna. I have at present three cases under my observation which I am convinced are identical with the Vienna cases. The same subject was discussed three years ago at the Congress in London, and all the German physicians who were present recognized the cases shown as true cases of prurigo.

DR. POLLITZER.—A word with reference to the hypertrophy of the hair muscle. Some of you may recall a picture that accompanied a unique case of nævus disseminated over the whole body in patches that I published in the "International Atlas for Skin Diseases" a few years ago. This picture showed a hypertrophy of the lanugo hair muscles very much greater than anything disclosed in Dr. Holder's sections. The sections in my case were taken from the same region from

which Dr. Holder's papule was cut. There was no itching at all in this case, although the man was the subject of autographism and there was apparently a congenial absence of the elastic fibers.

DR. HOLDER (closing the discussion).—As regards the question of the hypertrophy of the muscles in the patient, they become shorter and thicker, so that in cross section they look like an enormous muscle, but they really are not more than a little over half as long as the muscles seen in this girl of eight years of age. These sections from the adult do not show the full length of the muscle. I have not observed anything in connection with the sweat ducts, although I have seen it mentioned by some writers. In this case there is absolutely nothing that would suggest the slightest relation to any sweat duct, and I think that probably they belong to the condition found in the skins of older persons. These cases of children, which, we see in this country and which ultimately get well, may be closely related to the Hebra type, though they do not develop the secondary changes of the skin which are characteristic of the severe form of prurigo.

Therapeutic Notes on Sulphur Cream, Goose Grease and Crude Petroleum.¹—By G. T. JACKSON, M.D., New York.

DR. J. C. WHITE.—I would like to ask the reader whether he made any real experiment to establish the penetrating properties of goose-grease. Goose-grease was considered a famous remedy in the old days for the cure of "croup." It was supposed by all housekeepers all over New England to have an especially penetrating and soothing action on an inflamed throat. It is not at all improbable that one fat possesses certain physical properties over another, which increases its penetrating powers.

DR. BRONSON.—I would like to say a few words in endorsement of the Sulphur Cream as prepared by Dr. Jackson. I have used it for several years and have the utmost confidence in it. I have used it personally as a toilet article, not for the sake of decoration, but because I suffer much from dryness of the scalp and dandruff. I regard it as a most excellent preparation and as the best method of using the sulphur.

DR. BULKLEY.—It is very unfortunate that we cannot all get this sulphur cream made by Dr. Jackson's druggist. What is it that makes his preparation so much better than any other? Why is it that the cream is devoid of any odor and that it does not get gritty? Nearly all sulphur ointments are gritty and are not easily rubbed into the skin. I have tried some of the doctor's ointment on my wrist and it disappeared beautifully. Is it the sulphuret of zinc or is it the genuine sulphur? It may be some preparations of sulphur produced by precipitation. I would like to know the secret of it because at present it looks like a proprietary article which we must get from one particular place.

DR. CORLETT.—I might add my experience with Dr. Jackson's sulphur cream. I have had it made in Cleveland and my druggists have succeeded in putting up a very elegant and creditable preparation. I do not believe that it is quite as good as this sample, because it is more greasy looking.

In regard to the petroleum, a number of patients in the hospital wards tried petroleum with the same results as those mentioned by Dr. Jackson.

DR. FORDYCE.—I have tried Dr. Jackson's sulphur cream in alopecia and in seborrhea. I have used all the other preparations, but my patients as a rule have had better results from the use of the sulphur cream than anything I have ever used before.

¹See June, 1901, issue.

DR. JOHNSTON.—Haas and Herz, who have probably done more work for the dermatologists in New York than any other druggists, say that there is only one secret in the preparation of a good ointment, given good ingredients, and that the ingredient most needed is "elbow-grease." The reason that most ointments are badly made, that they are lumpy, is because the men who make them up are absolutely too lazy to rub the ingredients together as they should be rubbed. I think their statements are pretty well borne out by their own ointments. They are equally as good as this ointment of Dr. Jackson.

DR. JACKSON (closing the discussion).—Replying to Dr. White's inquiry, I have never carried out any experiments for the purpose of establishing the penetrating power of goose grease. I was led to use the goose grease on the ground the doctor mentioned, that is, because it is an old-fashioned remedy upon which the old New England housewives relied. Almost every country boy has at some time in his life had goose grease rubbed into the skin of his nose to cure a cold in the head. I began using it in the treatment of ringworm because of its supposed penetrating power, and with such good results that I have continued it ever since.

As to the sulphur cream, there is no trick about it at all. My druggist makes it all himself, not trusting the making of it to his clerks. He uses ordinary powdered sulphur, but, as Dr. Johnston says, he uses plenty of elbow grease. That certainly is the secret of a good ointment. My patients have had the cream made at other places, but it is not the same as that my druggist makes.

Further Report of a Case of Symmetrical Atrophy of the Skin.—By J. A. FORDYCE, M.D., New York.

The primary objective change in this case was first a dilatation of the capillaries of the skin, which in a couple of months was followed by an atrophy. The parts were exceedingly swollen and painful, being the seat of bullous formation. In some places the skin was considerably whiter than normal. The disease was confined almost exclusively to the hands, ankles, and elbows. In its early stages the lesion closely resembled a lupus erythematosus, but later on pustular and ulcerative lesions developed about the lower extremities, which was followed by a serpiginous syphilide. Histologically, there appeared to be an obliteration of the smaller vessels in the skin. The diagnosis was somewhat doubtful. It rested between syphilis, and an idiopathic atrophy. Possibly it may have been a combination of the two. Treatment was ineffectual. Unfortunately, the patient disappeared before any definite results could be obtained.

DR. EDWARD BRONSON.—The doctor's case, in some of its aspects, resembles a case of leucoderma syphilitica reported by some German authority a few years ago.

DR. ZEISLER.—I would like to ask Dr. Fordyce how he compares his scars with a case presented to-day by Dr. Hyde, in which there is also some atrophy of the skin.

DR. HYDE.—I am interested in learning that Dr. Fordyce regards this as a syphilitic manifestation, because, if I am not disappointed, I shall exhibit a patient to-morrow morning having a peculiar form of atrophy of the skin of the back of the hand which strikingly suggests the picture which the doctor has exhibited of the hand of his patient. If my patient comes to-morrow morning, I trust that Dr. Fordyce will not fail to examine her. In her case there is no suspicion of syphilis, and it is possible that resemblance may be recognized between the two cases. I would like to ask whether, when Dr. Fordyce made his original presentation of

the case before the society some time ago, he thought that this was a case of syphilis.

DR. FORDYCE (closing the discussion).—I do not think that this case is like the one to which Dr. Hyde refers. In that one there was a distinct infiltration and absence of inflammation, whereas in my case the inflammatory changes were very marked. When I first saw the case, the diagnosis of syphilis did not suggest itself to me. I did not think the process could be syphilitic because there was nothing whatever to suggest syphilis. It was only two or three years afterward that these rupia-like lesions appeared on the lower extremity and the ulcer on the arm, and not until then did it occur to me that the whole process might be syphilitic. Then, when I made the histologic examination and found the obliterated blood-vessels that I felt convinced that my diagnosis of syphilis was correct.

DR. HYDE.—I would like to ask Dr. Fordyce whether he remembers a patient whom he first saw in New York and who afterward came to me in Chicago, presenting much the same appearance.

DR. FORDYCE.—I think there was much resemblance between the two cases, but I do not believe there was an infiltration in the skin in the case Dr. Hyde refers to. The atrophy was purely primary.

Intrafollicular Applications.¹—By E. B. BRONSON, M.D., New York.

DR. KLOTZ.—I have used an improvised instrument similar to Dr. Bronson's, namely, a hard-wood tooth-pick, which can be sharpened to a fine point. This is dipped into some caustic fluid like carbolic acid and then introduced into the cavity of the follicle.

I am particularly interested in the dilatation of the sebaceous follicles which Dr. Bronson has mentioned. Several years ago I demonstrated them before the New York Dermatological Society. In that case the patient had been suffering for several years from a periodically returning localized erysipelas of the nose and both cheeks. In consequence thereof the blood-vessels have become dilated and the entire nose somewhat enlarged. On pressure of the nose the follicular openings discharge considerable sebum of white color. There is no tendency to the formation of comedoes or of pustules. In one patient, where there dilated follicles were not very numerous, I have destroyed them with electrolysis, as suggested by Dr. Bronson, with very good effect, but I doubt whether this method could be applied where there are large numbers of follicles. It was the almost unanimous opinion of the members of the New York Dermatological Society present at that meeting that it was advisable to leave such cases alone, as it was much easier to make the condition worse than to bring about my improvement.

DR. J. C. WHITE.—I would like to ask Dr. Bronson how much he thinks he shortens the period of an ordinary case of juvenile acne by treating it by these mechanical measures, and whether the result is better than that obtained from the use of ordinary remedies applied in one way or another, without any mechanical assistance. I very rarely resort to the use of such mechanical measures in the treatment of an ordinary acne. It may be possible that my cases do not get well as rapidly as his cases do in which he uses the mechanical means and which he believes to be absolutely essential.

DR. HYDE.—It is not apropos of the introduction of caustic into the follicle, but with reference to the introduction of caustics into the skin by means of hard wood that I refer to Unna's thorn-treatment of lupus. In comparison with Finssen's light treatment of lupus vulgaris, this method has a special value. Unna, as

¹See page 490, October, 1901.

he showed me last summer, takes the thorns of the gooseberry bush, which he removes in such a way as to leave attached enough of the stem so that the spikes can be easily handled. The thorn is then dipped into the liquor stibii compositus of the German pharmacopœia and is then thrust deeply into the lupus tissue, a few at a time. Over all a plaster is applied. The results are often very satisfactory.

DR. FORDYCE.—I can certainly recommend Dr. Bronson's treatment of acne rosacea. My method of treating ordinary acne is to express the contents of the sebaceous glands and then apply antiseptic and desquamating agents. I now have much better results than formerly.

DR. GRINDON.—There is no doubt whatever than one can with the scaling treatment accomplish as much in a few days as he can with the ordinary treatment in months. I have always used salicylic plasters, which I have found to answer very well.

DR. BRONSON (closing the discussion).—I did not believe that I was presenting anything that was particularly novel or original. It was rather for the purpose of introducing the subject to which, it seems to me, not enough attention has been given. I think the subject is an important one, and my experience leads me to say that my method affords decided benefits over the ordinary methods in certain cases. It should be borne in mind that I do not advocate such severe measures in the average case of acne, but only in such cases as are particularly severe or deep-seated. Then, it seems to me, the disease must be treated as you would a suppurative inflammation of any mucous canal. Ordinary surface applications are of little value. In acne indurata, with extensive suppuration and undermining of the tissues, where several follicles run into each other, where they are confluent, as occasionally occurs, this treatment is very effectual. A simple surface application does not answer for these cases; you must disinfect as you would in an ordinary pus cavity, and the more thoroughly you do it the better your results. You cannot disinfect in a better way than by introducing into the follicle some active disinfectant.

As to whether I find that the disease is more rapidly terminated by this method than by any other, I can only speak in general terms. I have a decided impression that it is.

DR. KLOTZ.—My experience is entirely in accord with that of Dr. Bronson in regard to the application of mechanical measures to those deep-seated lesions of the follicles in acne. If they are lanced and emptied early, they will heal in three to four days without having a scar, while if left to themselves, it will take three to four weeks before they heal, leaving a red mark for several months and a scar forever. But recently I attended a middle-aged lady who had suffered from the disease for nearly four years, having been under treatment, particularly by internal remedies almost constantly. After repeatedly lancing the deep-seated pustori and treating them antiseptically I saw her well within about five weeks. Certainly the surgical interference decidedly shortens the course of the disease and favors a speedy cure.

A Case of Probable Pressure Gangrene of the Face in a New Born Child.

—By E. B. BRONSON, M.D., New York.

There was a peculiar affection on the child's face, black in color, and resembling a crust. This was dressed by the physician in charge, but in spite of treatment it spread very rapidly to the cheek and neck, extending down to the shoulder. The color turned to a greenish-black. There was but very little infil-

tration or inflammation. There was at first a slight areola, and some discoloration of the skin; the cuticle was slightly elevated. This was followed by a play of colors, and crust formation. The entire affected area had the appearance of the skin of a mummy, or as though leather had been wet and dried in the sun. The process was a superficial one, and the child was otherwise perfectly healthy. After ten days, the slough separated, and in about six weeks the wound had completely healed. The question was what had caused this peculiar appearance? Was it a pressure gangrene due to the application of forceps, was it caused by carbolic acid or lysol, or was some internal disturbance the cause of it? It could not have been a pressure gangrene, because the lesion was in such an unusual place that the mother must have been injured at the same time, which was not the case. Neither could it have been carbolic acid or lysol burn, because neither one was used. Therefore it seems certain that the condition was due to some central or brain lesion. Yet, on second thought, it hardly seems possible that, if the latter had been the case, no other evidence of the central disease presented itself. The author also exhibited a portrait of the case.

DR. HYDE.—I have lived long enough to have learned a few things, and one of them is not to pass upon patients whom I have not seen. At the same time the case reported is most interesting I will make a suggestion to the doctor as to the possible etiology. We have recently had a remarkable case of the infliction of injuries by the use of carbolic acid in the hands of a young woman. A number of cases have been reported recently in which prolonged applications of weak solutions of carbolic acid were followed by cutaneous gangrene.

DR. MILTON B. HARTZELL, Philadelphia.—As I understand it, the lotion was applied to already existing lesions.

DR. JOHNSTON.—Last winter there were two cases in the New York City hospitals of a similar nature. I cannot say that they are identical with this, nor will I offer the complete findings, as they have not been reported. The localization of the lesions in the first case bore a striking resemblance to Dr. Bronson's. The patient was a middle-aged woman who was brought to Bellevue with a septic temperature and who presented gangrenous lesions over both malar eminences, over the points of the shoulder, the elbow and the wrist. These lesions were at first supposed to be purpuric, but then a bulla appeared in each place whose bases finally became gangrenous in the center. When she was removed to the City Hospital the diagnosis was changed to that of erythema. She died, but before death cultures were made from her blood and a micrococcus resembling a streptococcus was found. I examined the tissues and found multiple foci of streptococci in the cutaneous lesions and at considerable distances from the ulceration. The findings from the blood are of considerable value, those from the skin are not. The woman died with all the evidences of a systemic infection.

The second case is now in the hospital, a man, who has a slight leucocytosis and temperature without any apparent reason. Cultures have been made from the blood without any result. In his case the purpura began in the thumbs and on the great toes, from which it spread to all the other toes and both feet. When I left the balls of the toes were gangrenous. On the point of the right shoulder the lesion was at first a purpuric one and then became very dark with a sloughing area in the center. The tissues affected were at first extremely hyperesthetic, so that he could not bear the weight of the bed-clothes. After four or five days this disappeared.

DR. HOLDER.—I understand that the writer inferred that the process started

in utero. Last October a foundling was brought in to Randall's Hospital in the same condition. We had no history whatever, as the child was picked out of an ash barrel. Under the chin was one patch, and on the chest was another, both fairly symmetrical. It was very much in the condition of Dr. Bronson's case. There was a very slight line of demarcation, and the whole skin was black and leathery. The child died within four days after admission to the hospital. Bacteriological cultures showed a mixed infection. It is impossible, as a rule, to tell what these foundlings die from, as they are so much exposed to cold. There was no autopsy made in this case.

DR. SHEPHERD.—I had a similar case of gangrene in an infant which was brought to me when a week old. There was a dry mummified gangrene on the vertex of the cranium extending from fontanelle to fontanelle and covering one parietal eminence. It had a peculiar map-like outline with a sharp well-defined margin, and on percussion the skin was as hard as leather. The mother said that it appeared at birth. The labor was not unusually severe. The child was brought to me a week afterward, the mother coming the following week. The child was otherwise perfectly normal, and I could not get any history of any unusual complications during the labor. I think she was attended by a midwife. There was absolutely no antiseptic used in this case. I showed photos of the case to the Society at a previous meeting.

An Extraordinary Case of Quinine Susceptibility.—By H. W. STELWAGON, M.D., Philadelphia.

The young man had a severe attack of cold some years ago, when a physician prescribed quinine in the ordinary dose. The first dose the patient took was followed by a severe constitutional disturbance, simulating typhoid fever, and by a erythematous eruption, and finally desquamation. Some time after that he took some patent medicine which contained one-eighth of a grain of quinine to the dose. He became the victim of another attack just exactly like the first one. The same thing took place every time he took quinine or any of the cinchona derivatives. The patient was made painfully aware of his susceptibility to quinine on different occasions, the most unusual of which was a typical attack following the application of a hair tonic which contained quinine. It was not due to any neurotic disturbance, because the eruption appeared no matter whether the patient was conscious of taking quinine or not. Some of his medical friends administered quinine unbeknown to him, but it was invariably followed by a typical attack.

DR. J. C. WHITE.—I will remove the doubts, if any exist in the mind of the reader of this paper, with regard to the authenticity of quinine poisoning from the use of a hair wash. I once prescribed a hair wash containing some quinia for a lady in my office. Twenty-four hours afterward I was called to her house in a hurry. They told me that she had scarlet fever. She had a typical quinia rash which lasted for a week or so and terminated in desquamation. A single application of the hair-wash was sufficient to produce this result. The quantity of quinia in the wash was exceedingly small. The lady informed me that a similar effect had been produced by taking quinine internally.

DR. SHEPHERD.—I reported a case some years ago of a patient who had a scarlatina rash from taking ten grains of citrate of iron and quinine. I did not suspect at the time that it was a drug rash; he shed his skin just like a scarlet fever case. After he recovered from this attack he felt a little indisposed, and thought he would take another dose of his tonic. Half an hour afterward he went to bed and had another attack, which lasted ten days. Then I was convinced that

it was the tonic that was producing this effect. It contained about half a grain of quinine to the dose.

Colloid Degeneration of the Skin.¹—By DR. CHARLES J. WHITE, Boston.

DR. WHITE read a paper describing a case of this kind, in which the lesions covered the face, hands and exposed parts in general. The papules varied in size, and conformed to the usual description of these cases. Colloid degeneration of the skin is an exceedingly rare affection, and the author's case is the fifth on record. He also presented a number of drawings, colored, which showed the histopathology of this condition.

DR. HYDE.—I regret that Dr. Charles White was not able to present his paper in person. If his paper had been read I should have reported a case, the description of which is given in the paper before me, sections of the skin being shown in the room adjacent. My paper explains the pathological conditions recognized in the sections and also includes an abstract of the literature on the subject that is accessible. Many cases have been ignored in this abstract because they did not seem to belong properly to the category of colloid milium. Fourteen cases seem fairly suggestive of the disease and in some of these the pathologic work has been done by men whose names are known and whose work is well credited. Looking over the field, it is clear that we have few rare diseases of the skin in which there has been a greater degree of uniformity in the findings than is represented in the report of the cases collated. The location of the disease is chiefly the face, including the cheeks, the nose, the ears, and the backs of the hands; in one case the thorax and mammary regions were involved. In all the cases the lesions strongly suggested vesicles in appearance, pin-head to millet seed in size; none, however, with fluid contents. The patients were usually young, but one was fifty and another seventy years of age. There were almost no complications and very rarely eczema. There were few or insignificant subjective sensations. On the part of all who have seen and examined the patients it is admitted that exposure to sunlight has some relation to the production of the disease.

The Use of Roentgen-Rays in Skin Diseases.—By W. A. PUSEY, M.D., Chicago.

DR. STELWAGON.—I would like to express my admiration of Dr. Pusey's work. I have had a number of cases of epithelioma under my care at the Philadelphia and Howard Hospitals in which I used this treatment and with few exceptions all of them were more or less benefited. None of the cases was cured, however, as they have scarcely been sufficiently long under treatment. Several of them were cases involving the bridge of the nose and a part of the eyelid, and on which the surgeons were loath to operate. The first effect is a drying-up of the discharge, and then a gradual contraction of the ulcerated area. I can hardly agree with the doctor, that the action is the same as in the Finsen light treatment, as the latter acts chiefly through its bactericidal properly, whereas experiments in this direction seem to show that the X-ray is lacking in this power.

DR. PUSEY (closing the discussion).—In regard to Dr. Stelwagon's point concerning the difference between X-rays and ultra-violet light, the last paragraphs of my paper, which for want of time have not been read, briefly consider this subject. The analogies between the physical properties and effects of the actinic rays among X-rays and of the actinic or ultra-violet rays of white light are so striking that I believe it will require unexpected discoveries to destroy the probability that the ultra-violet rays of white light and certain rays among the X-rays are identi-

¹Will be published.

cal, or at least so similar as to be practically identical. The fact that the ultra-violet rays of white light show bactericidal properties and that this is not yet proved of the X-rays is not a sufficiently strong argument to overthrow the striking analogies in the properties of the two sorts of rays. Whether the X-rays are bactericidal or not is a question which is not yet closed, and on the other hand the bactericidal properties of the ultra-violet rays of white light are not so salient a characteristic of them as to make it the basis for an inference in favor of an essential difference between ultra-violet rays and certain of the X-rays.

It is hardly conceivable that in Finsen's method of treating lupus the result is due to the bactericidal effect of the ultra-violet rays upon the tubercle bacilli. It is very much more probable that the result is due to the peculiar stimulation of the tissues which these actinic rays cause. This is rendered still more probable when one remembers the fact that Finsen is finding his treatment also effective against epithelioma. In the present state of our knowledge of carcinoma we cannot ascribe the effect of the ultra-violet light upon epitheliomas to the bactericidal properties of the rays. Most of us, I think, do not believe that epithelioma is a bacterial disease, and unless it is, we must find some other property of ultra-violet light rather than its bactericidal quality to account for its effect upon epithelioma. This other property is, I believe, the marked effect which light—and by light in this connection we mean the violet or actinic rays of light—has upon the nutrition of cells. That light has this remarkable effect upon the nutrition of living cells is, of course, a trite statement. It is illustrated in every case of sunburn.

The Nominating Committee reported as follows: President, Dr. George Thomas Jackson, New York, N. Y.; Vice-President, Dr. Joseph Zeisler, Chicago, Ill.; Secretary and Treasurer, Dr. Frank Hugh Montgomery, Chicago, Ill.

Boston, Mass., was selected as the next place of meeting. Time, September 20, 21 and 22, 1902.

Selections.

GENITO-URINARY DISEASES.

Report upon a Case of Gonorrheal Endocarditis in a Patient Dying in the Puerperium; with Reference to Two Recent Suspected Cases.—By NORMAN MACLEOD HARRIS, M.B., and WILLIAM M. DABNEY, M.D. (*Johns Hopkins Hospital Bulletin*, March, 1901, page 68).

HARRIS and DABNEY report an interesting case of a woman, primipara, aged nineteen, who was admitted to the obstetrical department of the Johns Hopkins Hospital, complaining of fever and weakness which were thought to be of puerperal origin. She was confined about a month previously; during the labor frequent vaginal examinations were made without aseptic or antiseptic precautions, and in the third stage, the retained placenta was removed manually after several attempts, also without aseptic precautions. On the 4th day she was seized with a chill, followed by fever and sweating, and these symptoms had recurred regularly every day thereafter. Constitutional symptoms of a marked character appeared, in addition to a rather constant cough, with pain on the right side.

On admission temperature was 102.4° , pulse 120. Lungs normal. Heart gave evidence of endocarditis, involving the aortic valve. Legs edematous and slightly swollen. Joints not involved. Provisional diagnosis of ulcerative endocarditis of the aortic valve, secondary to puerperal infection, of probably streptococcic origin, was made. The patient gradually became worse, with collapse and much sweating, and in spite of stimulation and subcutaneous infusion of normal salt solution, the pulse which had fallen to 60 per minute, gradually became weaker and the patient died, the day following admission to the hospital.

An examination of a fresh blood specimen, taken before death occurred, was found negative for malarial organisms.

The autopsy revealed an acute vegetative and ulcerative endocarditis, involving the aortic, tricuspid and pulmonary artery valves. Acute splenic tumor, infraction of spleen, catarrhal cystitis, puerperal uterus.

The aortic valves were the most extensively involved, the posterior segment alone being free from vegetations. The left segment was surmounted on the ventricular side by a large mass of lobulated vegetations which extended down on to the ventricular wall. The endocardium of the ventricle below the right segment was also considerably roughened. From the right sinus of Valsalva a probe could be passed through an opening in the septum ventriculorum into the vegetations on the ventricular side in the right ventricle behind the tricuspid valve. The opening was probably caused by an extension of the inflammation through the septum. Other organs and tissues were quite normal.

Coverslip preparations for microscopical examination, of the heart, were made from the valvular vegetations, pericardial fluid, splenic infarct, pelvis of left kidney, and contents of the urinary bladder. In the last three the findings were negative. Slips from the vegetations showed large numbers of cocci, occurring singly, in pairs, fours and clusters; also, various kinds of leucocytes, the poly-

morphonuclear type greatly predominating. The cocci were mostly lying free, but they also occurred within cells. They readily decolorized by Gram's stain.

From the urinary bladder none of the bacteria found could be said to resemble gonococci.

Bacteriological cultures proved the presence of gonococci on the aortic vegetations, in addition to streptococcus pyogenes, and bacillus coli communis; the tricuspid vegetations yielded the streptococcus and the bacillus coli; splenic infarct remained sterile; heart's blood gave the bacillus; urinary bladder showed streptococcus and bacillus coli.

The second case reported is that of a man, twenty-eight, admitted as a supposed case of typhoid fever. Patient complained of pain in stomach, heart and kidneys.

Had gonorrhea three years previously. Patient has been ill two months; first noticed general weakness, "dumb chills" for three weeks daily, followed by moderate sweats; no nausea, vomiting, herpes or diarrhea. Was in bed four or five weeks, then recovered sufficiently to go about the house, but four days later had a relapse. Since that time (about a month) his legs have been swollen, keeping him in bed. For the last three weeks had palpitation of the heart and a bad cough, worse at night. Expectoration of a whitish color.

On admission he had chilly sensations, temperature 101.8°, falling to 97° at 8 A.M. next day. Puffy condition of eyelids was noticeable. Pulse of good volume, but irregular in force and rhythm, with a suggestion of a collapsing quality. Rate, 26 to quarter minute. Urine, S. G. 1.013, acid reaction, much albumin present, no sugar. Many epithelial casts, pus cells and small, round nucleated cells. Few red blood cells. Diazo reaction absent.

At 8 P.M. of the day following admission he said he felt comfortable, but was found dead at 9:15.

Autopsy showed acute ulcerative endocarditis of pulmonary valve; ascites, hydrothorax and hydropericardium; acute splenic tumor; small area of bronchopneumonia; glomerulonephritis; simple goiter.

Gonorrheal infection was only suspected on the day following the autopsy. Coverslip preparations from the vegetations and the urethra were made. The former showed numerous gonococci, within cells or among cell remains, but more often free. From the urethra no gonococci could be obtained.

A third case is reported of a man, twenty-two, who entered the hospital for rheumatism of the right ankle. Denied gonorrhea or syphilis, but admitted exposure to both. Ankle joint painful and swollen. Heart was found much enlarged, the point of maximum impulse being in the fifth interspace 9 cm. from mid-sternal line. No thrill present. Pulse 104°, fair volume and tension, collapses. Rhythm regular.

Day after admission patient complained of abdominal pain, vomited, but next morning at 8, the general condition was considerably improved over the previous night. At 8:35 he died suddenly.

Urine before death, S. G. 1.011, few granular casts, epithelial cells and detritus; otherwise negative. Medical bacteriological report upon day of admission proved that the blood culture made was sterile.

Autopsy showed acute endocarditis, perforation of aortic and mitral valves; purulent myocarditis; purulent and hemorrhagic pericarditis; chronic passive congestion of lungs; acute splenic tumor; anemic infarction of spleen and kidneys; acute nephritis; cloudy swelling of viscera.

The bacteriological report showed that in the vegetations there were large numbers of large diplococci with some single or tetrad forms situated chiefly outside of leucocytes, only scattered polymorphonuclear leucocytes were found containing diplococci or groups of diplococci which decolorized by Gram's method. The pericardial fluid also demonstrated the presence of vast numbers of leucocytes of various types, among which were found gonococci.

The authors declare that it is clearly proven that the first case is one of undoubted gonorrheal origin, but in the two latter cases the lack of clinical evidence of a recent gonorrhea, and the failure to demonstrate the presence of gonococci in culture rather weakens the assumption of their being gonococcal in nature. Yet from the demonstration on coverslip preparations, from the material of the valvular vegetations, of micrococci which coincide in all respective non-cultural characteristics with those of standard descriptions of the gonococcus and from the peculiar massive formation of the vegetations themselves, they regard it as reasonable that both cases should, without much doubt, be considered as examples of gonorrheal endocarditis.

An Experimental Study Concerning the Relation Which the Prostate Gland Bears to the Fecundative Power of the Spermatic Fluid.—By GEORGE

WALKER, M.D. (*Johns Hopkins Hospital Bulletin*, March, 1901, page 77).

WALKER, in order to determine more clearly the connection which the prostate gland holds to fertilization, instituted a series of experiments in which the gland in white rats was excised in part and in whole, and its effects on fecundity noted. Previous experimenters had shown that when the seminal vesicles were excised, the breeding property was reduced about one-half, and when both prostate and vesicles were removed, it was brought down to nil.

From Walker's interesting experiments he concludes:

(1) That a removal of the anterior lobes of the prostate gland in rats has no effect on breeding; but in a certain number it diminishes the fecundating power; and in a few it is destroyed entirely.

(2) Complete excision has a very marked effect on fecundity, reducing it to almost nil when the gland is entirely removed.

(3) Partial or complete removal of the prostate has no effect upon the sexual desire and capacity.

(4) Complete removal of the gland in the adult animal has no effect on the histological structure of the testicles. Complete removal of the prostate in the young animal has no effect on the histological structure of the testicles. Complete removal of the prostate in the young animal has no effect upon the subsequent development of the testes.

A. L. W.

A Case of Intravesical Dilatation or Ballooning of the Ureter.—By HUGH H. YOUNG, M.D. (*Maryland Medical Journal*, November, 1900, page 553).

YOUNG reports an interesting case of peculiar intravesical balloon formation at the end of the left ureter. Patient, aged forty-nine; complaint, burning on urination, and swelling of testicle. No history of tuberculosis or syphilis. Gonorrhea thirty years ago, without history of epididymitis or other complications. Fourteen months ago blood escaped, without apparent cause, from the urethra during an interval between urinations. Has not recurred, but urination has become so frequent that he has to get up three or four times every night to void urine. Does not know when swelling of testicle began.

No urethral discharge present. Small hydrocele of right side. Epididymis pre-

sents a nodular, very firm, semi-elastic mass in the globus minor about 2 c.m. in diameter. In the globus major are several smaller nodules. No tenderness on pressure, no fluctuation; the testes seems normal. Rectal examination shows nodular enlargement and induration of right lobe of prostate. Left lobe smaller than right, but also considerably indurated at lower end. Left seminal vesicle and vas deferens enlarged and indurated, and tender; right not palpable.

Tubercle bacilli present in great numbers in urine; albumen abundant; pus cells, very few epithelial cells.

Cystoscopic examination showed right half of bladder perfectly healthy in appearance, the ureter on same side normal. On the left side, over an area extending from the urethral orifice around and behind the left ureter, the mucous membrane was of a deep red color, individual vessels not visible. The surface rough, thrown into folds, with irregular superficial ulcerations scattered over it.

While hunting for the left ureter, a peculiar glistening, round tumor, the size of a small grape was seen, but immediately disappeared. The left ureteral opening was then found appearing as a fine pin-point opening, lying among a mass of wrinkled mucous membrane. While watching for the urine to spurt from this orifice, the small, round, tumor suddenly reappeared, and then as rapidly disappeared. It was found to rise up like a balloon at intervals of twenty seconds, carrying with it the ureteral orifice, from which the urine was ejected in a fine, forcible stream. The balloon would remain fully distended as long as the flow of urine from the orifice continued, and then it would suddenly collapse into a mass of wrinkled mucous membrane.

A discussion of the literature of the subject shows that thirteen cases have been previously reported by various observers. They are said to be due to congenital deformity, or the result of some acquired abnormality. The deformity in the congenital cases consisted mostly in a partial or complete closure of the lower ureteral orifice. The mechanism of the pouching would divide the cases into those in which there is a uniform dilatation from the pelvis of the kidney down to the end of the sac, and those in which the pelvis of the kidney and main portion of the ureter, are not dilated, the sacculation occurring only at the extreme lower end of the ureter. The case reported evidently belonged to the latter class. The ballooning may have been due to a dilatation of the ureter where it lies beneath the mucous membrane after having penetrated the muscular coat.

A. L. W.

The Pathological Alterations of the Kidneys in Pulmonary Tuberculosis in Reference to the Passage of Toxins and Tubercle Bacilli.—By G. D'ARRIGO (*Centralblatt f. Bak. und. Infekt. Krank.*, Sept. 4, 1900).

D'ARRIGO examined a number of patients suffering from phthisis, and collected the kidneys of ninety-eight persons who died of pulmonary tuberculosis in various stages. Of twelve cases he made a very careful study, and concludes:

1. In the kidneys of tuberculous persons, in the mild as well as severe forms, there are invariably present alterations in the vessels in the interstitial substance and in the renal epithelium.

2. In the early stages of pulmonary tuberculosis the lesions in the kidney are not severe, and seem to be due to the passage of the toxin through them. This tuberculous toxin attacks the vessels first, then the interstitial connective tissue and the epithelium.

3. If the tuberculous process in the lungs increases, in addition to the toxins, the tubercle bacilli are carried to the kidneys and there form colonies.

4. The circulatory and functional disturbances of the kidney which are caused in the beginning by the toxin, facilitate the later colonization of the bacilli in the kidneys. In this manner the kidneys became a *locus minoris resistentiæ*.

5. How the bacilli reach the kidney it is difficult to state, though it must be through the circulation. The bacilli were found in most cases in the glomeruli and in the interstitial connective tissue, but never in the blood vessels or in their walls. These cases must not be confounded with acute miliary tuberculosis.

A. L. W.

Notes on 206 Operations for Stone.—By W. F. ADAMS, M.R.C.S. Eng., L.R.C.P. (*British Med. Journal*, May 25, 1901, page 1259).

During two years and four months of service at Punjab on the Indus, Adams operated on 206 Cases of stone. Lithotripsy was performed in 153 males and 8 females, lithotomy in 36 cases (sex not stated).

Lithotomy was performed only when the crushing operation was considered impossible or inadvisable. The contra-indications to lithotripsy in boys are:

1. When there is marked cystitis, lithotomy drains the bladder and cures both diseases.

2. When there is much difficulty in passing instruments.

3. When the stone is too large or too hard for the necessarily small instrument.

4. When there are indications of advanced kidney disease or great debility, the shock of the cutting operation seems less severe probably because it is shorter. In men the contra-indications are:

1. When the instruments cannot be passed.

2. When the stone is too large and cannot be grasped.

He has never found a stone too hard for the lithotrite. In tight strictures perineal section serves both for the stricture and the introduction of the crushing instrument.

In lithotripsy the previous injection of a drachm or two of sweet oil into the urethra is an advantage. In boys over fourteen a full-sized lithotrite was used. The mortality was considerably higher in the lithotomies than in the lithotripsy operations. Of the former in 36 operations there were 3 deaths (about 8 per cent.) while of the latter in 101 operations there were 3 deaths (less than 2 per cent.).

There were 9 cases of urethral calculus, of which 4 were extracted through the meatus, 3 with incision of the meatus and 2 by external urethrotomy (one perineal and one penile).

In the lithotomies the ages of the patients varied from three to seventy-five years, and the weight of the stones from 70 grains to 4½ ounces. In the litholapaxies the ages ranged from one and one-half to over eighty years, and the stones weighed from 1½ grains to 4 ounces.

A. L. W.

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INFLAMMATORY AFFECTIONS OF THE NAILS.¹

BY S. POLLITZER, A.M., M.D.,
New York.

THE subject of diseases of the nail is one which is involved in a great deal of confusion. The work of the older writers is of hardly more than historical interest, as the complete absence of histological examinations renders the diagnosis in most cases uncertain, and the value of the more recent articles is, through absence of bacteriological examinations, very much impaired. In presenting the subject of the inflammatory affections of the nails the work has been rendered more difficult by the absence of a satisfactory classification of these diseases, as well as by the fact that our notions of inflammation are still in a transition stage. With these questions, however, I take it, the Council, in doing me the honor of asking me to open the discussion on this subject, have not intended that I should concern myself.

The acute inflammatory affections of the nail form by far the greatest number of all diseases of the nail which we encounter, and the general term *onychia* or *onychitis* is used as a synonym for these diseases. The terms *perionychia*, *paronychial*, *panaritium*, *paronychial subungualis*, etc., are merely clinical terms that have reference to the portion of the nail organ involved or to the extent of the inflammation.

An acute inflammation of the nail necessarily presupposes a lesion of the surface through which the infectious element may enter. The opportunities for infection must be apparent when we consider the

¹ Read before the American Dermatological Association.

great number of micro-organs, saprophytic and pathogenetic, which normally find their habitat under the free border and at the sides of the nail. The extraordinary pains with which surgeons have learned, in the interest of their patients, to cleanse their terminal phalanges of living organisms before undertaking operations affords striking testimony to their recognition of this fact.

As to the particular organism responsible for the simpler onychias, we can reason only by analogy; but we are probably not wrong in assuming that the staphylococcus aureus plays the most important rôle. It seems, however, only reasonable to assume that in many cases there is a mixed infection of many organisms and that virulent streptococci may be found in those cases of onychia in which there is rapid involvement of the lymphatics, swelling of the lymph nodes, high temperatures, symptoms of general sepsis ending in death. These severe or *foudroyant* cases are fortunately of rare occurrence. Their diagnosis must be based on general considerations rather than on any special appearance of the local process. In a case of onychia in an early stage, which followed a known lesion, a prick of a pin under the nail, I found on incising the tender, not yet ruptured abscess, a pure culture of staphylococcus aureus.

Onychia maligna is a term that has been applied to an inflammation of the nail-organ characterized by some unusual features. It is a disease which is rarely seen nowadays and, to judge from the descriptions of authors, probably includes several distinct affections. We owe to Billroth an excellent account of the disease from which the following is condensed: The affection occurs chiefly among children and begins with symptoms of a slight inflammation usually at one of the outer angles of the nail. The swelling becomes rapidly marked and the pain intense. The process soon involves the entire terminal phalanx and terminates in the formation of an ulcer at the margin of or under the nail-plate. The ulcer is characterized by its extraordinary chronicity, together with the absence of any tendency to phagadenism. The floor of the ulcer is usually covered with a necrotic or diphtheritic membrane. The termination of the disease will depend on the extent of the ulcer, that is, on the portion of nail-organ destroyed. Extension of the ulcer beyond the end phalanx never occurs. As to the precise nature of the process, leaving out of consideration the older writers, recent authors do not agree. Billroth assumed some particularly virulent pyogenic organism to be the etiologic factor, but made no bacteriologic examinations. It is reasonably certain that the bacillus tuberculosis is the cause of at least some of these cases. E.

von Meyer has published a typical case of this disease occurring in a boy seven years of age, in whom an irregularly round ulcer about two cm. in diameter occurred on the tip of the fourth toe of the right foot following a slight trauma. The inguinal glands were enlarged and fluctuating. The ulcer healed promptly after cauterization; the inguinal glands were extirpated. In a portion of the margin of the ulcer extirpated for examination, as well as in the inguinal glands, tubercle bacilli were found.

On the other hand, Jonathan Hutchinson, in a well known paper (*Medical Times*, 1858), takes the ground that onychia maligna is usually a syphilitic process.

These citations must suffice to show that the term onychia maligna, as used, is rather vague and confusing and out of place in any rational classification of diseases of the nail. It is, at best, only a clinical term which has reference perhaps to but a single symptom; and the terms onychia ulcerosa, tuberculosa, syphilitica, etc., had better be employed for these rare conditions.

The most common of all the acute inflammatory diseases of the nail organ is that known as *unguis incarnatus*, or ingrowing nail. The disease is so well known that I will spare you an account of its symptomatology. For us the most interesting feature is the consideration of its etiology.

There seems to be no doubt as to the fact that *unguis incarnatus* is always due to a trauma at the outer distal end of the lateral nail groove. There seems also little doubt that in the vast majority of cases an improperly fitted shoe, through pressure on the nail, is the direct cause of this trauma. In order to produce such an effect it matters little whether the shoe is too long, too short, or too narrow for the foot. The effect in any case will be to press the nail plate, constantly or intermittently, against its bed, with the result of producing an erosion of the epidermis against which the outer angle of the nail plate is pressing. This effect is heightened by the physiological swelling of the foot that takes place toward the end of the day. The notion that there is necessarily an improper direction in the growth of the nail in these cases seems entirely without foundation. The fact that ingrowing nail occurs in the vast majority of cases between the ages of fifteen and twenty affords of itself a clue to its causation. These years constitute a period during which the developing youth or maiden is most likely, through motives of vanity, to wear tight-fitting shoes. The frequent association of *halux valgus* with ingrowing toe-nail affords an additional proof of the causative relation of external pressure to the condition in question, as this dis-

placement of the great toe is directly due to the pressure of narrow, pointed shoes.

Given thus a surface lesion of the lateral nail groove the development of the clinical picture is readily understood. Micro-organisms which are so abundant about the nails find a ready opportunity for multiplication and the inflammatory swelling of the affected nail wall follows naturally. I pass over the more serious and less frequent infections which may develop secondarily in a soil naturally so prone to infection as the foot with the mere mention of the fact that cases of tetanus and of malignant edema resulting from this apparently trivial lesion have been described.

Before leaving the subject of the acute idiopathic diseases of the nail there is an affection which deserves attention because of the extensive literature with which it has been favored, especially by the French, the *mal des confiseurs*, confectioners' onychia. The disease occurs among those engaged in the manufacture of candied fruits. In this process the confectioners are obliged to dip their fingers, holding the soft fresh fruit into the hot syrup. The inflammation begins in a slight lesion of the nail-fold with an acute or subacute swelling accompanied by some pain and redness. The process soon extends to the nail-bed and the matrix, and the nail is loosened and raised by the serous and purulent exudation first at its free margin, later over its entire bed. The pain is said to increase very gradually and is always worst at night. The picture, in short, is that of a subacute paronychia terminating in complete or partial destruction of the nail-plate. The diagnosis, in the absence of a history, could be made only with great difficulty. In the ordinary paronychia the entire process is much more acute and usually only one finger is affected. In syphilitic paronychia the nail is shed early in the process and there is a greater tendency to the development of granulation-tissue.

We pass now to those diseases of the nail-organ in which the nail disease forms part of an inflammatory dermatosis. We shall consider hyperkeratosis subungualis, eczema, and psoriasis of the nails.

Hyperkeratosis subungualis, described first by H. von Hebra and later examined histologically by Unna, is a very rare condition. The process affects the entire nail-bed with the exception of that portion covered by the lunula. The hypertrophic thickening begins at the outer angles and extends in a lessening degree toward the middle line and backward toward the lunula. As the abnormal horny layer may attain a thickness of half a cm. at the outer angles of the nail, the effect of the process is to change the normal curvature of the nail-plate so

that it becomes flattened. The nails are not shed. Heller regards the process as a localized eczema.

Eczema of the nails is a condition which occurs with such varying manifestations that an attempt to describe the manifold conditions that may be presented would carry me far beyond the limits of this paper. As Unna has expressed it, variability is the sign-manual of *eczema unguium*. The disease may affect the nails by direct extension of an eczematous process on the back of the hands and fingers or it may be associated with an eczema of other portions of the body. An acute eczema of the fingers affecting the nails begins with redness, swelling, and tenderness of the nail-walls. A sero-fibrinous fluid exudes from under the sides of the nail, and the nail-plate becomes loosened and discolored as the exudation extends to the nail-bed. The completely cornified nail-plate is too resistant to be affected by the exudation, but as the process extends to the matrix the soft newly formed nail presents manifold defects and deformities. The condition rarely remains uncomplicated, as the opportunities for secondary infection are so numerous. Heller associates with this form of eczema that variety of subacute paronychia which occurs not infrequently on the fingers of laundresses, scullery-maids, etc. I do not think he is justified in this classification, as these latter conditions are clearly paronychia of traumatic origin.

In the subacute and chronic eczemas of the nail the disease is usually more strictly limited to the nail-bed and matrix. Minute whitish points may be seen on the lunula indicating a softening and swelling of the nail-substance. As the process extends these little points coalesce and form irregular softened elevations. Irregular depressions result from the exfoliation of these softened areas and the entire nail-plate gradually presents a roughened and dull surface. At the same time there is frequently associated a subungual parakeratosis of the lateral and distal portions of the nail-bed, which results in considerable distortion and thickening of the nail. This thickening is more than counterbalanced by the abnormally active desquamation from the surface of the nail-plate. When the eczema has persisted for a considerable period, changes in the subungual cutis become manifest in the form of edematous swelling of portions of the underlying cutis. The region of the lunula and of the anterior border of the nail are especially prone to this swelling, and as the altered growing nail passes over these elevations it acquires the transverse undulations often noted. The disease, as has been said, is characterized by great variability in the clinical picture. The effect on the nail-plate varies, of course, with the particular portion of the nail-organ

most affected, as well as with the intensity of the eczematous process. The disease is always of long duration and it is at best a matter of months before the smooth, transparent, normal nail-plate may be seen pushing its way beneath the posterior fold. At times, however, the nutrition of the matrix has been so impaired that it is permanently incapacitated for the performance of its normal function, and the nail-plate is not reproduced. In these cases as a substitute for the nail-plate there is an irregular dense layer of horny tissue developed from the nail-bed.

Psoriasis of the nails is a condition which has been fairly well recognized since the time of Alibert, who described a *consomption dar-treuse des ongles*. The disease occurs, according to Heller's statistics, in about nine per cent. of cases affected by psoriasis of the cutaneous surface, a ratio considerably larger, I should judge, than that between eczema of the nails and of the cutaneous surface. It occurs under two distinct types that may be described as the early and the late form. The early form, *Psoriasis punctata unguium*, presents an appearance so characteristic that from its presence an attack of cutaneous psoriasis has occasionally been predicted. The changes in the nail are, however, of so slight a character at their inception that they but seldom attract the attention of the patient or of the physician. They consist in the development of minute hyperemic spots that may be seen on the proximal portion of the lunula underneath the cuticle. The nail-plate over these minute areas undergoes softening and with the advance of the nail-plate the softened tissue is desquamated, so that the nail over the lunula shows numerous minute, perfectly round depressions arranged usually at regular intervals and often in parallel rows. With the further growth of the nail and the continued development of these punctiform depressions, the affected nails finally come to have an appearance which has been likened to the faceted and cribose surface of a thimble.

This pure form of psoriasis unguium is very rare and seldom remains uncomplicated by the secondary or late changes of psoriasis. In contrast to eczema unguium, the severer forms of psoriasis of the nails begin at the distal end of the nail-bed and usually under the outer angles of the nail-plate, which is raised up by a dry, crumbly mass of scales. When the entire nail-bed and the matrix are involved in the process the resulting changes in the nail-plate are so varied as to make any simple description inadequate. One feature, however, may be specially mentioned; it is the occurrence of a sharply marked, transverse depression which extends as a "punched-out" groove (*rain-*

ure) several mm. broad across the nail. Above and below this groove the nail-plate may appear comparatively normal.

The diagnosis of eczema and psoriasis of the nails presents in absolutely typical cases but little difficulty. In either case the association of a cutaneous eczema or psoriasis with the nail disease will afford a clue to the nature of the nail process. In all doubtful cases the mycotic diseases of the nails must be excluded by microscopic examination. In differentiating between eczema and psoriasis it is important to bear in mind the fact that the changes in eczema unguium usually begin at the proximal, in psoriasis at the distal end of the nail.

In *Pityriasis rubra pilaris*, *Psorospermiosis*, the various forms of *Pemphigus*, changes in the nails are often of the most pronounced character. They occur, however, only in connection with the dermatosis of which they form a part and their consideration need not occupy us here.

The syphilitic affections of the nail form one of the most important chapters in onychopathology and have attracted the attention of physicians for the last two hundred years. *Chancre* of the terminal phalanx of the finger is not infrequent. According to Bulkley's statistics, out of a total of over nine thousand cases of extra-genital chancres, the lesion was located on the hands or fingers in 462 cases (5.1 per cent.). In what proportion of these cases the lesion occurred on the terminal phalanx we have no means of determining. It seems only natural to assume, however, in view of all the circumstances under which chancres occur on the hand, that in the majority of these cases the lesion was located near the finger-tip.

As manifestations of a general syphilitic infection two groups of nail affections may be described, those which are dry and those which are moist. *Onychia sicca* or *Scabrities unguium syphilitica* is a rare affection in which the changes are limited strictly to the nail-plate. It is, of course, inconceivable that the nail-plate should be altered without some changes in the matrix or bed, but in the absence of histological examination the nature of such changes remains unknown. The disease has been observed as early as eight months after the infection, but in most of the cases from two to ten years elapsed before its occurrence. The nails are brittle, chipped at the free border, often discolored, and densely pitted with minute depressions. While the condition is essentially chronic, lasting often several years, it yields finally to anti-luetic treatment.

The second dry form of syphilis of the nails consists in the development of a papule on the nail-bed. It occurs during the stage of the secondary eruption of syphilis and begins as a circumscribed, deep

red patch which may be seen under the normal transparent nail, generally about the middle third. The bright red color soon assumes a more yellowish tone, and the nail-plate, becoming thinned over the affected region, finally disappears, leaving a characteristic defect, the floor of which is occupied by the abnormally thickened horny-layer of the nail-bed. The disease has never been observed in more than one nail. Complete restitution to the normal condition follows the cure of the general disease.

The moist form of syphilis of the nails, *Paronychia ulcerosa syphilitica*, is the most frequent and important of the luetic affections of the nails. It occurs during the greatest activity of the general infection, usually within the first year or two, and almost invariably affects the majority of the nails of the patient. The more general recognition of syphilis and our improvement in its treatment have undoubtedly contributed to the fact that this form of onychia is nowadays less frequently seen than formerly. We have already referred to *Onychia maligna* as a term which has practically disappeared from our nosology. In typical cases the disease begins with inflammatory symptoms of the terminal phalanx. The nail walls become red, swollen, and tender. Pain is usually present, but never so severe as in the infectious paronychiæ. The epidermis of the affected nail-walls is lifted up by a sero-purulent exudation, soon breaks down and leaves an ulcerating surface surrounding the nail except at its distal end. As the ulcerative process extends to the matrix and nail-bed, pus accumulates under the nail-plate and may be pressed from under its free border as well as from the lateral and posterior folds. The nail-plate, of course, soon loses its normal transparency, becomes opaque and even black in color, and may be so loosened as to fall off spontaneously. The nail-bed is then seen to be occupied by an ulcer. During this stage there is very little spontaneous pain, but pressure on the loosened nail-plate is extremely painful, and for this reason, when the process affects the nails of the toes, the wearing of shoes or walking is almost impossible.

The ulcerative process, of course, does not always begin in the nail-folds. It may affect the nail-bed first, spreading outward; and different portions of the nail-organ, bed, matrix, etc., may be involved in the process in varying degrees. For this reason the final effect on the nail varies greatly in different cases. If the matrix has been completely destroyed, of course no new nail tissue is formed; when the matrix has been only superficially or partially destroyed the attempt at nail production will result in a more or less deformed nail-plate.

Mr. President and gentlemen, in this paper I have attempted only

to sketch the more important features of that group of nail-diseases assigned me by the Council. While I fully recognize the impossibility of doing justice to a subject of this magnitude in so limited a space, I trust that this presentation, however inadequate, will suffice as an introduction to the discussion on the inflammatory diseases of the nail.

64 East Fifty-eighth Street.

TROPHIC AFFECTIONS OF THE NAILS.¹

BY JOSEPH ZEISLER, M.D.,
Chicago.

EVERY attempt to systematically consider affections of so-called trophic nature of any organ will at once meet with the serious obstacle that with our present knowledge the term "trophic," while fairly well understood in its practical meaning, cannot be defined in an exact or scientific manner. Even if we agree for the purpose of mutual understanding that it refers to certain biological conditions, chiefly those of nutrition, it is for many processes still an open question whether nerve influences alone or vaso-motor, *i. e.*, circulatory, disturbances, are at the bottom of the pathological condition. As long as the classification of cutaneous disorders is in a constant state of fermentation, due to modern etiological studies, causing the displacement of many a dermatosis from its heretofore firm position, it is doubly difficult to systematize the diseases of the nails, as their alteration is often only a partial symptom of a general affection. This will at once be apparent if we consider such diseases as lichen planus, psoriasis, pemphigus and even eczema whose true nature is still very far from being thoroughly understood. Were we to assign the purely mycotic or parasitary diseases of the nails and again, the purely inflammatory, traumatic and mechanical lesions and new growths to their respective places, we would not seriously err in comprising all the remaining affections under the heading of trophic changes. These will be seen to be either of a retrogressive or progressive character.

One of the most frequent retrogressive disturbances of the nails is the formation of transverse furrows or grooves. They are often a sign of preceding general trophic disturbances and Parisot goes so far as to say: "The nails and the epidermis are the mirror which truly reflects the disturbances of nutrition from fevers and constitutional

¹A Brief Résumé Presented at a Symposium on Nail Affections before the American Dermatological Association, May 31, 1901.

diseases." Da Costa observed in a boy suffering from typhoid fever whitish transverse furrows which almost divided the nails into two parts. Vogel had a similar experience in a case of typhus fever. Others noted the phenomenon after severe gastric, intestinal and hepatic troubles; after pneumonia, erysipelas, epidymitis, angina, parotitis, scarlet fever, measles, influenza, acute rheumatism and after severe traumatism of a general character. Even the normal puerperium and seasickness seem to have caused it occasionally and Papillon found among 1,650 cases of mental disease 250 with transversal grooves. In a previous communication I have called attention to this same alteration as following fractures, and I have since in frequent talks with patients and surgeons been able to have my views corroborated. Heller, in his excellent monograph on the diseases of the nails, differs somewhat from my own explanation of that symptom and attributes it to general systemic influences. The fact, however, that the groove formation in my case occurred on the injured side only and was simultaneous with an unmistakable arrest of the growth of the nails on that side, ought to show easily that in such cases the absolute rest of the fractured member, the consequent mal-nutrition, anemia and marked atrophy of the muscles and skin are solely responsible for it.

The formation of the furrow as far as the process in loco is concerned, is evidently due to a temporary disturbance or total arrest of the nail growth in the matrix. The portion of the nail directly behind it has often lost some of its luster. Occasionally there are several parallel furrows to be noticed. One such case I have now under observation in a patient who has long suffered from severe attacks of bronchial asthma.

More rarely observed, yet somewhat related to the foregoing is an anomaly consisting in a sort of excavation or central depression of the nail plate, due in all probability to a process of shrinking in the nail bed. This condition has been described by Crocker as spoon nails, and elsewhere as koilonychia.

Under the title of idiopathic change of nails or alopecia ungualis have been noted cases of total dehiscence of one or more nails without any appreciable local cause and followed by a regeneration of the nail. In a few instances the trouble recurred periodically. Occasionally it followed severe psychical shock, also after lightning stroke and the exposure to Roentgen rays. I have recently observed one such case in a lady who for the past five years has suffered from severe gastric trouble, the nature of which has not been definitely decided by the attending physicians. Without any warning, pain or inflammation one or another nail would gradually become loose near the base and eventually be

thrown off. In the absence of any other explanation it seems plausible to look upon these cases as due to trophic influences.

It is quite difficult to give either an anatomical or a clinical definition of so-called atrophy of the nails. In fact it is very questionable, whether this is a disease *sui generis* or only a symptom of another underlying process. All sorts of conditions have been described under that name, as for instance, congenital anonychia or total absence of nails; retarded growth; thinning and softening of the nails, the latter termed hapalonychia by Kaposi. While nail atrophy is often observed in connection with such diseases as eczema, psoriasis, lichen planus, ichthyosis, tertiary syphilis, its existence is at times quite clearly traceable to disturbed nutrition and to peripheral nerve lesions, as for instance in a case of Hirschberg after trauma affecting the superficial peroneal nerve. One of the forms under which atrophy of the nails manifests itself is brittleness or onychorrhexis, another is the tendency to splitting in the longitudinal direction to which Unna gave the name of schizonychia.

I have no hesitation in speaking in this connection of that trifling affection known as leucopathia unguium or leuconychia. Very commonly found in the form of small dots, occasionally as transversal bands, of which there may be several parallel ones, it affects in rare cases the whole nail plate, leukonychia totalis. The anatomical cause of these white spots is by no means settled. Since Morrison's well-known investigations the majority of writers have, often without further investigation and with little evidence of criticism, agreed that they are due to the presence of minute air bubbles within the horny nail substance. This opinion is to a certain extent borne out by the observation that slight traumatism, especially the careless use of the cuticle knife, often produces them. It is just barely possible that in this way small particles of air might gain entrance into the basal strata of the nail. It should be remembered, however, that those white dots or striæ often occur without any preceding trauma after fevers, neuroses and general mal-nutrition. Furthermore, the careful investigations of Heidingsfeld make the theory of air inhibition very doubtful. Unable to find any trace of air within the whitish area, his explanation, based upon histological studies, is, to quote his own words, that "leukonychia is the result of some pathological change of structure of a plane of nail cells, approximating a failure of the affected cells to undergo normal physiological keratinization."

Hypertrophic changes of the nails are usually comprised under the generic term onychiauxis, of which it would be difficult to give a strict definition. The most important progressive alteration of the

nails is that known as onychogryphosis or the transformation of the nail into a claw-like appendage. In the present short résumé I must refrain from entering upon a detailed description of the well-known condition. Since Virchow's classical monograph in 1855 little has been added to our clinical knowledge of the disease. In fact, most writers since that time, foremost among them Unna in his Histopathology, have repeated what seems to me a fatal error concerning its etiology. For while it is beyond doubt that a majority of all cases of onychogryphosis are due to traumatic influences, chief among them pressure from shoes and general neglect, this theory fits poorly those cases where the finger-nails are affected and fails utterly when the disease occurs congenitally. An observation of this kind which I have made some twelve years ago, and of which I have preserved careful notes and sketches, has ever since influenced my own views about that interesting malady. The case was referred to me by Dr. Fenger of this city, and concerned a child three months old in whom the trouble was noted ever since birth. All the nails of the fingers and toes were alike affected. They protruded for about a quarter of an inch or more beyond the free border of the phalanges. The nails appeared enormously thickened and transversely broadened so as to be rolled together to a bottle-like, somewhat conical mass. The sub-ungual horny layer was considerably hypertrophied. In cutting off the free edge with some difficulty no blood would flow but a thick serum-like almost oily fluid escaped. In the absence of any appreciable cause, I attributed the condition to a deep-seated trophical disturbance. Heller also strongly inclines towards such an etiological conception. Concerning the pathology, Unna looks upon onychogryphosis not as a true hypertrophy but explains the anatomical changes as a primary keratoma of the nail bed in the form of a bolstered mass which leads secondarily to a keratoma-like hypertrophy of the nail plate.

Reference has already been made to the frequency of nail affections in connection with generalized dermatoses. Our views concerning the nature of the nail alteration in such cases will depend entirely upon those held concerning the main trouble. Apart from the mycotic and inflammatory diseases, it must at once be apparent that the nails suffer chiefly in those cutaneous affections which, in the absence of a positive cause, are largely regarded as due to nervous or tropho-neurotic influences. Among these may be mentioned ichthyosis, eczema, psoriasis, lichen planus, pityriasis rubra pilaris, pemphigus, dermatitis herpetiformis, scleroderma, syphilis and lepra. This is not the place to enter upon argumentation or theorizing concerning the etiology of these diseases. That many cases of eczema and psoriasis are

induced by underlying nervous disturbances will hardly be doubted. As regards syphilis, I have in mind the more remote stages of the disease in which the nails are often involved. In anæsthetic lepra the nails show often atrophic changes. The clinical picture of the nails in the above named diseases will be variable and in no way characteristic enough to allow an independent diagnosis. All sorts and stages of atrophic or hypertrophic disturbances are liable to be noted, as for instance, punctiform depressions, longitudinal striæ, sometimes arranged like beads, opaque spots, softening or brittleness, distinct general trophy or again hyperkeratosis subungualis.

It goes without saying that the nails are a particularly vulnerable element in many of the nervous, cerebral and spinal affections. This would offer a very rich field for special investigation of the trophic nail affections. But the dermatologist has, unfortunately, little occasion for observations of this kind and neurological literature gives a rather meager harvest in this respect. It may be briefly mentioned here that the nails are frequently affected after traumatic lesions of the peripheral nerves, also in Raynaud's disease, occasionally in locomotor ataxia, often in syringomyelia, rarely in progressive paralysis, very rarely in epilepsy and hysteria. In acromegaly the nails often participate in the general hypertrophy of the ends of the fingers and toes. Concerning general diseases, it is interesting to note the almost pathognomonic enlargement of the nails in phthisis and the dehiscence of nails with or without concomitant gangrene in diabetes.

In conclusion, it may be remarked that careful attention to the condition of the nails will often be found a very valuable element in the diagnosis both for the dermatologist and the general practitioner.

PARASITIC DISEASES OF THE NAILS.

BY JOSEPH GRINDON, PH.B., M.D.,

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PARASITIC disease of the nails is practically limited to onychomycosis, the animal parasitic affections deserving little more than mention.

In this necessarily brief presentation of the symptomatology, etiology, pathology and diagnosis of the parasitic diseases of the nails, favic and trichophytic invasion will first be considered together under each leading division, the features common to both being given, and then the points peculiar to each will be considered. In this way unprofitable repetition will be avoided.

Symptomatology.—Onychomycosis is characterized by a change in the form, color and consistency of the nail plate. The nail bed is affected resulting in an accumulation of epithelial débris and fungus which may raise the nail plate and alter its shape. Involvement of the matrix may result in dystrophy of the nail, extreme grades of the latter even amounting to onychogryphosis. In favus, dystrophy is most exceptional.

It is rare for the whole of any nail to be invaded, the disease appearing in spots or oftener streaks of varying width extending from the free edge back for a shorter or longer distance, but stopping short of the lunula. In all but the rarest instances only a few of the nails are attacked, or it may be, but one. Subjective symptoms and the clinical evidences of inflammation are virtually absent from uncomplicated cases. Secondary infections may occur, resulting in suppuration, although these occur rather in the structures immediately surrounding the nail than in the nail structures themselves. The condition is eminently chronic, most rebellious to treatment, and in the worst cases, curable only by complete excision.

Favus.—Unna describes two forms, a diffuse catarrh of the nail-bed, forming foliated masses under the nail, of horny tissue permeated with fungus, and of a yellowish-white, opalescent, translucent appearance. The nails themselves are dry, discolored, opaque, much furrowed, fissured, laminated and raised at their anterior edges. In another form, quite dry, powdery, opaque, dead-looking masses form

which can be seen through the nails. They vary in color from that of sulphur to greenish-yellow. Spots often occur far back, in front of the lunula. Exceptionally these may by absorption form perforations through the nail plate. They seem to be efforts at the formation of scutula, to the full development of which the anatomical relations of the nail bed are not favorable. Heller thinks Unna's distinction theoretical. Kaposi mentions the yellowish-white points, but Bulkley has never seen them.

The disease generally begins at the free border, but may begin at the side, where according to Jackson, it may occasion an onychia indistinguishable from the common form. This is probably an instance of mixed infection. The free border is never thickened, but generally broken. The nail-plate is sometimes lifted up, almost back to its root, by the accumulation beneath. It is loosened from its attachments and more movable than normal. Generally the process stops at the lunula, but rarely it goes farther, so that finally there may remain no trace of true nail substance, its place being taken by a dirty, bulky irregular crust. (Morris.) The index and thumb are perhaps attacked a little oftener than the other fingers. Favus of other regions usually co-exists, but Heller mentions four cases in which the nails alone were affected, while Vidal and Zeisler have seen favus primarily in the toe nails.

Trichophytosis.—The main features of this affection are due to the fact that, in contradistinction to favus, the nail-plate itself is here affected, both primarily in the way of infiltration by the fungus, and secondarily, by dystrophy, resulting from involvement of the matrix and the deeper penetration of the trichophyton into the underlying tissues. The nail first becomes friable and dirty-yellow at its free border, while epithelial debris accumulates beneath. Very slowly and with little inflammatory reaction a dry disintegration proceeds, not uniformly, but in streaks, toward the lunula. These streaks may extend some distance from the free edge, perhaps a quarter of an inch in breadth (Walker) without spreading toward either lateral border. Again narrower lines follow the normal longitudinal striations, forming whitish, lusterless, split or ridged areas; or there may be irregularly distributed points. Transverse elevations may be seen, oftenest at the distal portion of the lunula. The nail long remains transparent, because its most superficial layers are the last attacked. Finally they too succumb, become exfoliated and fall off. This begins at the free border, so that the last remains of the nail-plate are to be found near the lunula (Pellizari).¹ The color of the affected nail varies from dirty-white to

¹ Ricerche sul trichoph. tons. Milano, 1888.

yellowish, brownish, and occasionally green-gray or even black. It is thickened and loosened from its bed, chiefly along its sides. The disease is sometimes limited to one border, which then often curls upward. After the disease has existed for years, the nail is much thicker than normal, perhaps eight to ten times, at its free border (Pellizari). Involvement of the matrix results in onychogryphosis. The finger nails are more liable than those of the toes and those of the right hand more than the left. Onychomycosis trichophytina is always of long duration. Lespinasse observed a case which had existed thirty years.

Etiology.—Mycosis of other regions either co-exists, or, often, has existed, for the nail affection long outlasts that of the skin or hair. Onychomycosis is extremely rare, a surprising fact when we consider the relative frequency of trichophytosis and favus at other situations and the constant opportunities for infection afforded by scratching. European authorities are generally agreed that favus of the nail is more common than ringworm, while several American writers (Van Harlingen and Stout) state the contrary.

Favus.—All but a few cases result from auto-infection. That hetero-infection occurs with greater relative frequency in attendants who handle favus daily is specifically denied by Heller. That infection occurs from animals is easily understood, since favus has been found in the horse, ass, ox, dog, cat, ferret, rabbit, rat, mouse and hen.

Other dermatoses at the same site may act as predisposing causes. Scleroderma was preëxistent in a case of Eichhoff's.¹

Trichophytosis.—Most observers proclaim the extreme rarity of the affection. Thus Bulkley reports 4 cases out of 10,000 of all dermatoses. Neither Crocker, out of 12,000 cases, nor McCall Anderson, out of 11,000, among which were 178 trichophytoses, record a single instance. White saw 180 cases of ringworm among 5,000 of skin disease, but none of the nail. Köbner, among 100 trichophytoses found 2 of the nail. On the other hand Pellizari had the astonishing proportion of 20 ungual cases out of 150 at all sites, and Arnozan and Dubreuilh record 11 out of 135 occurring among 37,000 dermatological patients.

Ringworm of the nail is ordinarily due to auto-infection. Heller collates 10 cases in which lesions existed elsewhere, distributed as follows: 6 on smooth surfaces, 2 of the beard, 1 of the scalp, and 1 of eczema marginatum. In a case observed by the writer, a physician presented the condition at the right great toe. Some years before he had had an eczema marginatum. Later, lesions appeared at the instep,

¹*Arch. f. Dermat. u. Syph.*, 1893 p. 857.

and last the nail lesion. The earlier lesions had long disappeared when I saw the case.

The affection may be primary, as was the case in a patient of Meissner, a man of 80 years, and in two of Heller's patients. Johnston saw four cases in which there were no other lesions.

Hetero-infection from men is not common, Vidal's statement that nurses at the Hôpital Saint-Louis are frequently affected, being at variance with other experience. Physicians are rarely affected. On the other hand its occurrence as a familial disease has several times been noted. Infection has been known to occur from animals, as in washing a dog. (Heller.)

Among predisposing causes age seems to play a part, old men being affected with relative frequency. Thus among 14 cases gathered by Heller in which the age is mentioned, are four men aged 69, 73, 75 and 80. Köbner on the other hand observed it in a child of 8 years and one of 10.

Besnier and Doyon think there is commonly a preëxistent contributory factor, as eczema or psoriasis, a traumatism, or some as yet indeterminate predisposition of the nail substance. That slight traumatisms are frequently at fault is shown by the fact that the point of entry is ordinarily at the free border. Manicuring may furnish the necessary breach.

Pathology.—An extremely low grade of tissue-reaction is characteristic of all onychomycoses. The chief differences between the pathology of favus and that of ringworm of the nail arise from the fact that the fungus of favus neither invades the nail-plate (except exceptionally) nor does it penetrate the deeper tissues. There is, therefore, neither the thickening and opacity of nail substance nor the dystrophy resulting from involvement of the matrix, which occur in ringworm.

Favus.—Unna described two stages which correspond to those observed at the general surface; a catarrhal stage, and one of scutula-construction; or a disturbed and an undisturbed period of fungus growth. There exists, however, this difference between the general surface and the nail-bed namely, that the latter situation furnishing the favorable conditions of greater warmth, moisture and anaerobiosis, the catarrhal stage is here, therefore, much prolonged. The conditions are on the other hand unfavorable to the development of scutula.

As above stated, the nail-plate is usually respected, nor is its growth indirectly affected through the matrix, as the extension of the fungus usually stops short of the lunula. Unna records one case to the contrary.

Unna found the prickle-layer thickened and the papillæ much lengthened. The fungus was found easily in the cornified epithelium, only a few threads penetrating to the upper layers of the uncornified prickle-layer.

Fabry¹ similarly reports freedom of the nail-plate, but did not find the horny layer invaded. The prickle-layer, on the contrary, he found permeated with the mould, which extended into the interpapillary pegs, forming there a compact mycelial network. All agree that the connective tissue structures are respected.

Trichophytosis.—Fox and Blaxall agree with Sabouraud that the fungus occurs in the nail substance, occasioning white spots at the surface. Galavielle placed particles from the deeper layers of nail in 90 per cent. alcohol for eight to ten minutes, then dried on blotting paper and sowed on maltose agar. The first cultures grew sparingly but after the seventh or eighth transfer the growth was luxuriant. In the nail substance the mycelium is chiefly short-jointed. Pellizari found the fungus in the epithelial layer of the nail-bed, oftenest near the free border, in the nail plate and even in the corium.

Near the matrix the epidermic cells contain eleidin instead of onychogen, evidenced by diminished transparency, a return to a simpler type under the influence of inflammatory reaction. Sometimes the coherence of the nail substance is diminished so that the lamellæ are detached. The nail is often softened and its elasticity lowered so that it may break across. Gradually all recognizable nail substance may be lost and only a dark shapeless mass left. Irritation of the matrix gives rise to the formation of a layer of parakeratotic tissue between the nail-bed and plate, thus greatly adding to the thickness at the free edge. Sometimes the nail is thus forced up at a considerable angle. Again the side-to-side convexity may be greatly exaggerated or a roof-like longitudinal ridge be formed, or the nail may be in part detached.

Other changes are more directly due to irritation of the matrix, as the marked development of longitudinal furrows. The same condition may terminate in onychogryphosis. The nail root may become inflamed and reddened, and secondary pus infection occur.

Diagnosis of onychomycosis from non-parasitic onychoses.—Some writers, as for example Kaposi and Jackson, say that onychomycosis is macroscopically indistinguishable from eczema, psoriasis, the lichens, etc. There are, however, points of difference. The slow march from the free border, long leaving parts of the nail intact, the limitation of the affection to one or a few nails, the freedom of immediately surrounding structures, and more than all, the presence of favus or

¹ Ueber Onychomycosis favosa, *Arch. f. Derm. u. Syph.*, 1890.

trichophytosis at other, perhaps distant points, would all be strongly suggestive. Eczema, on the other hand, frequently, and psoriasis generally, affect all the nails if any. In psoriasis, the free edge, instead of being thickened, is thin and the surface presents little pits. Johnston believes that a diagnosis of psoriasis can be made from the nails alone, they being thin and the borders raised by an accumulation of scales beneath, thus giving them a shovel-shape. It must be admitted, however, that a diagnosis of onychomycosis is not always certain on clinical grounds alone. Fournier once, and Hutchinson several times failed to find a fungus in cases in which the diagnosis seemed well established on clinical grounds. Of course a failure to find the fungus does not prove its absence conclusively. Usually it is discovered easily. Nevertheless, there probably do occur onychoses due to other causes which closely mimic the onychomycoses. Thus Hirtz and Jacquet¹ report the case of a subject of saturnine and alcoholic intoxication with mild neuritis of the inferior extremities, in which the nails presented a pith-like whiteness characteristic of trichophytosis, but in which bacteriological and histological investigation resulted negatively.

Diagnosis of favus from trichophytosis.—In favus the spots are more yellow, the nail plate is rarely affected and the phenomena all indicate a less deep involvement of the nail bed. The matrix being respected, onychogryphosis and lesser dystrophies are not seen. Levi-seur's contention² that while favus begins at the free bordered, trichophytosis first attacks the root and sides is not supported by general evidence, which is to the effect that ringworm also usually begins at the free border.

Animal parasitic affections.—In inveterate forms of scabies such as we do not see in this country, the nail substance may be invaded by the mite. Furrows are not formed, but irregular cavities filled with ova, mites and their remains.

The nails may be affected in Darier's psorospermosis.

In the preparation of this paper I have drawn freely on the writings of Pellizari, Unna, Heller and others.

¹ Soc. Med. des Hôp. de Paris, July 1, 1898.

² J'L OF CUT. & GENITO-URINARY DIS., 1898, p. 224.

THE TREATMENT OF DISEASES OF THE NAILS.

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WHILE much has been written about the diseases of the nails, as is amply witnessed in the not inconsiderable literature, and also in the papers read at this meeting, it is a matter of some difficulty to present the treatment of these affections in a satisfactory way, especially when it stands alone, and is divorced from the far more interesting pathological considerations that their study develops.

Vulgar notions, at which we are often disposed to scoff, are sometimes proved to be sound in fact, although not always correct in theory. For example, the idea that the nails are "poisonous" is perhaps as old as man himself, and to-day we know that there is a scientific foundation for what was once considered a popular superstition. Heller¹ quotes Johannes Dolaus (1689) as declaring that danger may arise from infection with the material from under the nails, and he states further that Bourgeois in his work for midwives warns the latter against tearing the navel-band with the nails for similar reasons.

It is well known that the space under the nails is a breeding ground for micro-organisms of various sorts, both saprophytic and pathogenic. The possibility of infection with tuberculosis and leprosy by the transference of specific germs from these situations has been admitted. The transmission of syphilis through these channels has long been known.

The vital importance of thorough disinfection of the hands and nails was recognized early in the era of aseptic surgery. Many methods have been recommended to secure this end, the two most trustworthy, according to Abbott, being those of Fürbringer and Welch, which need not be given in detail here.

The care of the nails from the cosmetic point of view² may, I think, be passed over here, with, perhaps, this statement from Erasmus Wilson³ written many years ago: "The care of the nails should be strictly limited to the use of the knife or scissors to their free border, and the ivory presser to their base to prevent the adhesion of the free

¹ *Die Krankheiten der Nägel*, Berlin, 1900.

² See especially Paschkis on Cosmetics.

³ *Healthy Skin*.

margin of the scarf skin to the surface of the lunula, and its growth forward with that part. This edge of scarf-skin *should never be pared*, or the nails cleaned with any instrument whatever saving the nail brush. Soap and the nail brush, with the occasional use of the knife or scissors to the free end and the ivory presser to the scarf-skin at the root are *golden rules for the care* of the nails and will prevent all their irregularities and disorders." The use of the "cuticular knife" so-called and other contrivances of the manicure set is often responsible for much injury to the nail and contiguous parts. Hangnails, or agnails, are not only unsightly, but when lacerations occur the latter offer ready doors of entrance for virulent infection. The ivory presser used occasionally and very gently will effectually prevent these accidents. When a slight laceration has occurred, or a nail has been cut or torn to the "quick" the application of a drop of flexible collodion is a useful measure. Montgomery deprecates the harsh employment of the ordinary nail brush and recommends the rubber flesh brush in its place.

I shall now ask your attention to the treatment of the more important *diseases* of the nails. Since the clinical appearances and pathology have already been given in preceding papers, I shall in this place, as elsewhere in the course of my remarks, entirely confine myself to the question of treatment.

Eczema and Psoriasis.—In the affection of the nail itself, as seen in these disorders the indications for treatment are practically the same. Arsenic internally, in moderate doses, long continued, is undoubtedly of the most decided value; indeed it may be said that in degenerations of the nails generally this drug displays its happiest qualities. Two other remedies of considerable value given internally, in these cases, and also in other dystrophies of the nails, are the lactophosphate of lime and sulphur, the latter in the form of Garrod's Tablets. I may say that I personally have more confidence in the internal treatment than in local applications which are difficult to apply and somewhat uncertain in their effects. The local treatment consists mainly in the use of preparations of tar, salicylic acid and chrysarobin in various combinations. Shoemaker advises an ointment of the tin oleate to allay irritation and give a polish to the nails. Veiel recommends that the nails should be scraped as thin as possible with glass, and that spirits of tar be applied beneath them and within the ungual fold, proliferations in this last-mentioned locality being destroyed with silver nitrate. Poulticing with green soap under a rubber finger stall is also said to have a good effect.

In treating the nail itself for eczema attention must always be paid

to the degree of perionychial inflammation that may be present. When there is considerable thickening around the margin of the nail I am in the habit of prescribing salicylic collodion, followed by diachylon ointment. More acute conditions must be treated by the same remedies that we should use in eczema elsewhere.

In psoriasis, Leistikow uses the compound chrysarobin ointment of Unna, and quotes in addition the following formula (Dubreuilh):

R	Lanolin,		
	Adipis,	aa	10.0
	Resorcin		0.5
	Chrysarobin		2.0

Syphilis. In luetic affections of the nails active specific treatment is, of course, the first course to be pursued. In the disorder known as friable onychia, it is necessary to pay particular attention to the ordinary hygiene of the nails, keeping them properly pared and protected from all sources of external irritation. In more severe forms Taylor prescribes soakings in hot bichloride solution (1-2,000) twice daily, and the free application of mercurial ointment. The same authority states that in case of separation of the nail exposure of the matrix and the application every day or two of liquor potassæ, followed by the use of an ointment composed of one part of mercurial and two parts of diachylon ointment, will arrest the disease.

Mild cases of perionychia also do well under this treatment, but I have found that one drachm of xeroform to one ounce of unguentum vaselini plumbicum is more valuable. In ulcerative perionychia of a severe type the diseased surface should be exposed, the granulations repressed with caustic applications, and powdered iodoform, aristol or xeroform applied. The lead ointment with xeroform just mentioned is also useful and agreeable. Protection of the parts with properly applied bandages or finger stalls will add greatly to the patient's comfort.

Onychomycosis. The fungi of favus and ringworm also invade the nails, producing gross lesions which are not especially different from those observed in other diseases of those parts. Although ringworm is a comparatively common disease in other situations it rarely attacks the nails, and my own experience of the disorder is very limited. In both favus and ringworm of the nails after proper scraping and paring the usual parasitocides may be applied. Among the special methods of treatment advocated by various authorities the following may be selected as most trustworthy: When favus of the nails is circumscribed Kaposi recommends excision, or if there is diffuse

cloudiness of the nail it may be removed gradually by the application of mercurial plaster corrosive sublimate (1-100 alcohol) and by cutting the nails from the edges.

Unna prefers chrysarobin ether spray or penciling with chrysarobin dissolved in chloroform or traumaticine.

Leistikow calls attention to the liability of setting up inflammation of the contiguous structures by the use of chrysarobin and employs instead first an ether-pyrogallol spray, followed by pencilings with:

R	Pyrogallol	1.5
	Naphthal	2.0
	Hydr. præcip. alb.	1.0
	Tr. Guaiaci	30.0

In ringworm of the nails the affected parts should be kept well scraped so as to allow penetration of the parasiticide, the latter being dissolved in some oily or spirituous menstruum. Among the more valuable preparations employed for this purpose may be mentioned the oleate of mercury 10 to 20 per cent., and solutions of bichloride of mercury.

Harrison's method is highly recommended by British writers. The nail is first scraped and then solution No. 1 (R Liq. potassæ, aquæ, aa ʒss.; potass. iodidi, ʒss.) is applied by means of lint covered with oiled silk and allowed to remain in place for 15 minutes; then solution No. 2 (R Hydrarg. bichlor. gr. iv.; spt. vini aquæ, aa ʒss.) is immediately applied, following the same procedures, and allowed to remain on for 24 hours.

Dubreuilh in onychomycosis smears the nails twice daily with equal parts of olive oil and pyrogallic acid; this application produces acute inflammation and discharge of the nail. Sabouraud uses a solution of iodine 15 grains; potassium iodide 30 grs.; water one-quarter. Absorbent cotton is soaked in this solution and applied to the nails under a rubber finger stall. It is certainly a more agreeable method than the production of a paronychia.

Onychia. This is a term used for acute inflammation of the matrix, in which are usually present suppuration, ulceration and casting of the nail plate. As may be presumed this condition is brought about by many different factors, as, for example, pus inoculation, tuberculous infection, direct syphilitic inoculation, injuries, etc.

Division or evulsion of the nail is generally demanded, and this procedure usually gives relief to the pain and tension. In most instances strict cleanliness and the use of some antiseptic lotion will be all that is necessary in the way of after treatment. Iodoform, xero-

form, and powdered nitrate of lead may often be used after removal of the nail in the phlegmonous variety of the disease. When there is considerable fungus granulation present or when there is a suspicion of tuberculous infection Shield insists upon the free use of the curette followed by the application of pure carbolic acid.

In onychia maligna, as often seen in strumous children, tonics and nutritious food should be made an essential part of the treatment.

Hypertrophy and Atrophy.—It is impossible to lay down any precise rules for the treatment of conditions due to the most varied causative factors except to say that each case must be treated on its merits. So far as the so-called hypertrophy of the nail is concerned the treatment must be directed to the removal of any traumatic agencies that may be present, that is, relief from pressure of ill-fitting shoes, the promotion of cleanliness, appropriate internal medication when required and appropriate local applications for secondary inflammatory accidents. An important point is the protection of the soft parts. Surgical procedures, even to the point of removal of the nail, wholly or in part and scraping the nail bed are occasionally demanded.

The treatment of the in-growing nail is mainly surgical, but occasionally relief may be obtained by simpler means. The essential thing is the removal of pressure by wearing properly built shoes, and when the condition is fully established the restoration of the axes of the nail bed and nail plate (Unna). This may often be effected by introducing some substance like sponge, lint, tin foil, etc., between the nail and furrow. Should ulceration and granulation be present the sponge wedge, if that has been selected, is saturated with a 2 per cent. alcoholic solution of nitrate of silver. This is repeated with increasing sized wedges until the nail plate and nail bed are once more parallel. Kaposi speaks very positively of the value of placing fibers of lint, the length of the nail fold, between the fold and the edge of the nail, after which soap plaster is wound around in circular strips, thus securing the threads and drawing the fold away from the nail. A good suggestion as to the treatment of this complaint has been by Dr. Kinsman, which is as follows: After removing all pressure from the nail by cutting away the shoe, the ulcerated parts are thoroughly disinfected with hydrogen dioxide; then a drop of a cocaine solution is applied followed by a drop of Monsel's solution; after which cover over loosely with gauze. This process is to be repeated every second day until the nail is released by the retraction of the tissues. Pürckhauer's method is said to be satisfactory, being both bloodless and painless; the nail is moistened with a warm 40 per cent. solution of caustic potash and in a few seconds, as the surface becomes soft, it is scraped with a piece

of glass, after which the solution is again applied and scraping repeated until the portion of nail to be removed is as thin as paper, when it can be lifted up with forceps and readily cut with scissors.

What has been said in regard to the treatment of overgrowth of the nail applies to a certain extent to the treatment of atrophy, except that in thinning of the nails it is often necessary to protect the parts by rubber finger stalls, the wax finger or other mechanical means.

Empirically arsenic and sulphur may be tried in most cases of nail atrophy.

A PROBABLE CAUSE OF FAILURE IN INTERNAL URETHROTOMY.

BY G. FRANK LYDSTON, M.D., CHICAGO,

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UNSATISFACTORY results from internal urethrotomy for stricture are not infrequent in the practice of every surgeon of experience in genito-urinary work, however infrequent they may be in some of the reports of such work. It is a common experience in a series of cases of urethrotomy performed under precisely similar conditions, with equal care and freedom in the cutting, to have the majority of them do well and a limited number recontract very soon after the operation. In some of these an imperfect primary operation is an all-sufficient explanation. In others, however, recontraction will occur, no matter how thoroughly or often the cutting is done, and in many instances the recontraction is proportionate to the energy with which the surgeon endeavors to incise and keep open the stricture.

I have for some years vainly endeavored to classify my cases, and so differentiate them as to enable me to determine the possibility or probability of a successful result, but in many instances I find absolutely no differences in the conditions present which would logically explain the difference in operative results. In a few instances I have, I think logically, attributed the unsatisfactory results to such constitutional conditions as gout, rheumatism, or syphilis, but with due allowance for these conditions in many of my cases I have been unable to explain operative failure.

I have recently arrived at the conclusion that the personal equation, or, if I may be pardoned for using the old explanation which does not

explain, idiosyncrasy, has more to do with the results in urethral surgery than is ordinarily supposed. The peculiar tendency in such cases is, it seems to me, the same as that which exists in individuals who, after operation in other situations, develop keloid or pseudo-keloid.

When once this idea suggested itself to me, I was somewhat surprised that this explanation had not, to my knowledge, been hitherto advanced. Keloid, or pseudo-keloid, occurring in the cicatrix of an operation wound is, in a general way, not a rare condition, and, given the peculiar constitutional tendency to fibro-hyperplastic tissue growth which characterizes such cases, there is no logical reason why the urethra, when operated upon, should be immune. Surgeons who, like myself, have had interminable bother and worry over cases in which urethrotomy has failed to accomplish the desired result, will, I think, on reflection recognize the analogy in the behavior of the cicatricial tissue in such cases, and that found in keloid and pseudo-keloid after operation or injury in other situations. Not only is this constitutional tendency, whatever it may be, operative in the case of urethrotomy wounds, but, if my premises are correct, it is also a powerful factor in determining, 1, the occurrence; 2, the extent; 3, the consistency; 4, the rigidity; 5, the resistance to dilatation of strictures.

The great variations in the conditions found on perineal section for deep-seated stricture, and the varying degrees of success attained by the operation, may perhaps be explained along the lines herein suggested. The explanation which I have ventured to suggest does not, it is true, tend to surgical optimism in the practice of urethrotomy for strictures; still it may serve to a degree in disarming adverse criticism, and dispel the lack of confidence exhibited in certain quarters regarding the operation *per se*.

Society Transactions.

AMERICAN DERMATOLOGICAL ASSOCIATION.

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FRANCIS J. SHEPHERD, *President.*

(Continued from October Issue.)

Diseases of the Nails. —DRS. GRINDON, POLLITZER, HARDAWAY and ZEISLER.

DISCUSSION.

DR. JACKSON.—One of the gentlemen has quoted me as saying in my book that it is sometimes almost impossible to make a diagnosis in certain diseases of the nails. That I believe is true. It is a comparatively easy matter to diagnosis eczema of the nails when you have eczema of other parts; the same applies to psoriasis. Some of the trophic diseases are exceedingly difficult to diagnose. About a year ago we had at our clinic several cases of apparently atrophic diseases of the nails where only a single nail was affected. The diseased nails were deformed, spotted, ridged and worm-eaten. In two or three of these cases we found the ringworm fungus in the scrapings from the nail. I believe that ringworm of the nails is a much more common condition than it is usually believed to be.

In regard to the trophic spots so often seen in the nails, while some of them are due to an antecedent illness, I am convinced that a large proportion of them are due to manicuring. Many young women now-a-days indulge in the fad of having their nails manicured. Women have two fads now-a-days, one to have a woman take care of their hair and the other to have some one take care of their nails. The manicures overdo the operation and many of the women have these white spots in the nails as a consequence.

For years past I have watched a rather curious condition in my own nails. I have noticed that with the spring of the year I am very apt to have a groove form on the nails of the ring finger of both hands. That groove runs the whole length of the nail, beginning at the lanula and running forward. It makes its appearance without any apparent cause. Treatment has proven absolutely ineffectual and I have been led to believe that it must be some trophic disturbance. It usually disappears towards the summer, when work lets up and I am out of doors a good part of the time.

DR. BRONSON.—I have a portrait here of a disease of the nails, a trophic condition, occurring in a young man about thirty years of age. He gave a history of having contracted syphilis about sixteen years ago. The question naturally arose as to whether this disease of the nails had any relation at all to the previous attack of syphilis. His recollection of the present trouble is a little misty, but he thinks that the disease began about eight months ago, affecting first the toe-nails, the large toe first and gradually affecting the other nails. Finally the disease spread to both hands, until eventually all the nails of the toes were affected and

all the nails of the fingers with the exception of those of the middle finger on one hand and the ring finger on the other hand. The disease did not always begin at the matrix. In some cases it seemed to begin at the wall of the nail. The nail would ultimately become separated from its bed, become brittle and usually curl up at the edge. Finally it would break off, leaving just a vestige of the nail near the root and this too would be shed in time. Beneath the nail there was some thickening as though it were a hyperkeratosis.

In some respects this condition resembles syphilis, as it sometimes begins near the wall of the nail as a papule, as in the one described by Dr. Pollitzer, but that is a form which is seen usually in the early stages of syphilis. During the first two years this condition is met with. It seems extraordinary that a condition which affects the body symmetrically, affecting the nails of both hands and feet, could be attributable to syphilis acquired sixteen years ago. It seems to me that it must be looked upon as a trophic disease of the nails due to a neuropathic disturbance. The patient shows no evidence of syphilis if we except these peculiar manifestations in the nails. There is no other evidence of disease of the epidermis, and there is absolutely no constitutional disturbance.

I would like to mention one or two other cases in this connection. I call attention to a peculiar verrucose condition of the nail which is of interest and importance. I have seen a number of cases affecting the wall or root of the nail characterized by a verrucose growth which differed from the usual verruca in being much denser, almost as hard as horn and exceedingly intractable to treatment. It frequently affects a number of fingers, but is sometimes confined to one finger. I have never seen it affecting the toe-nails. I have in mind two cases occurring in young men where the thumb-nail alone was affected. The condition does not come under the head of ordinary verruca. A few months ago a young lady came to me who had a most curious condition of one of the toe-nails. She complained that for a long time her big toe-nail had caused her much pain because of pressure from the shoe. On examination I found the nail arched forward and protruding from under its border was a whitish, horny-looking growth, the exact nature of which could not be determined. It was not horny, however, because at the free border of the nail it was a little bloody, showing the presence of blood-vessels. I treated the nail in various ways for some time. For a time I used electrolysis, but finding everything to be without avail I finally removed the nail and found in the bed of the nail an elevation which had no particular characteristics. I curetted, the curette readily sinking into the mass, and presently reached the bone without exerting any undue force. The surface of the bone was evidently affected and carious. I made a thorough curettment; there was kindly healing without any return of the condition.

On microscopical examination cartilage cells were discovered in the débris which had been curetted away, so that I arrived at the conclusion that it was a slight chondroma with incidental caries from injury. The patient was a young girl and the epiphyseal cartilages probably had not entirely disappeared, which would seem to make the conclusion plausible. A thorough examination of the mass beneath the nail, and of the nail substance itself, failed to reveal the presence of any micro-organism.

DR. HYDE.—I wish that Dr. Bronson would write a paper on the special verrucose changes in the neighborhood of the nail. I indorse what he has said, having had a similar experience with a great many interesting cases, occurring chiefly in young men. Within the last week, however, I had a case occurring in a woman

over fifty years of age where these obstinate verrucose growths were present about the nail, clinging to the nail-fold and running up almost to the free border of the nail-plate. The obstinacy of these cases is noteworthy. My usual treatment has been the application of salicylated collodion for a week or more, applied in layers over the entire surface. The lesions, though obstinate, occasionally disappear and sometimes spontaneously. I was called out during the reading of the papers under discussion and therefore do not know whether attention was directed to a group of disorders which I believe are tropho-neurotic. During the last fifteen years I have seen cases where the nail-plate itself was not so much involved as the free border of the nail, which had been separated from the nail bed. They all occurred in neurotic, broken-down men and women, some relatively young, but most in middle life. A few nails in both hands and feet were conspicuously selected, not all of them being involved. This loosening of the nail and the consequent tenderness and pain produced by the motion of the partially detached nail make this an exceedingly disagreeable affection.

With reference to Dr. Pollitzer's interesting paper, I was not sure whether or not he stated that according to Pollack's statistics the majority of cases of chancre of the finger occurred in the neighborhood of the distal phalanges. If that is the case, I must add that it does not accord with my personal experience. We have had a large and sad acquaintance with practitioners affected with syphilis, starting on the finger. I think the majority have not been cases in which the infection occurred in the neighborhood of the nail-plate. Many of them, it is true, on account of the relative frequency with which the distal phalanges are exposed, do occur, but at a distance from the nail. Extragenital chancres of the hand occur in right-handed physicians most frequently about the thumb and the index finger, but they are frequently the result of traumatism and not an infection of the nails. In the operations of surgery and in the operations performed by the accoucheur, where I believe the amniotic fluid is sometimes at fault, the infection results often in an extragenital chancre on the proximal phalanges. I think it is decidedly the exception to the rule to find in practitioners digital chancre about the nail.

DR. FORDYCE referred to a unique example of nail disease, a written description of which had been sent to him by a physician in New York State.

The affection begins by the formation of a minute hemorrhagic dot at the matrix, which soon extends, and after a time leads to entire detachment of the nail. The member swells, but the swelling never extends beyond the first joint, and that joint is permanently enlarged and looks like the common calcareous deposit that we see so often. There is no discharge of any character from the finger, it is dry and sensitive all the time and the entire nail seems perfectly dead. During this process, which continues for weeks, the nail seems to contract, so that the finger tip is quite small and round. This difficulty has been going on at least fifteen years, and now nearly all the nails are more or less diseased and the red spot is showing on those that have escaped. The patient, a woman, is forty-five years of age and in good health, and in all respects well, with the exception of the nails, which are a constant trouble.

DR. SHEPHERD.—I had a case exactly like the last one reported by Dr. Bronson, a chondroma growing beneath the nail. I removed the nail and with a knife cut away the tumor. On the under surface of the tumor was a thin layer of bony tissue. The patient was a young girl fourteen years of age, and is the first case of the kind I have ever seen.

I saw two cases of syphilis infection of the nail-bed last year, both of

them in medical men. One of the cases did not come to me, but I happened to see it in the practice of another surgeon. He had removed all of the glands in the axilla, thinking the enlargement was due to septic infection. The nail was torn out and the bed thoroughly scraped, but without much result. The patient developed a typical syphilitic rash, so that there was no mistake in the diagnosis.

DR. ALLEN.—This is a vast and important subject, one which really ought to be discussed fully. I cannot let the opportunity go by without saying a word and offering my thanks to the gentlemen who have given us these excellent papers. Manicuring was mentioned, and I want to add my testimony to that of Dr. Hyde that it is responsible for many infections, not alone of the nail itself, but of the surrounding soft parts as well. Psoriasis usually affects many of the nails, and still instances occur in which a single nail, or corresponding nails on the two sides, may be almost the only part of the body where psoriasis shows itself. I have one such case under my observation at the present time. There is one skin disease which is accountable for a great deal of paronychia which was not mentioned. I refer to impetigo contagiosa. It would seem from my personal observation that this disease produces a considerable amount of paronychia and this will oftentimes be the only evidence of the impetigo. Sometimes you will find the impetigo in other members of the family, or you will find it existing on the scalp. Frequently the patient is treated by his family physician for the paronychia for a long time before the underlying condition is recognized. Once the diagnosis of impetigo is made, the treatment is exceedingly simple.

Eczema of the nails was said to be a rather rare condition. Of course, eczema of the nails alone is very rare, but that seen in connection with eczema of the hands in bar-tenders and dishwashers, is, in my experience, rather common, the nail involvement may persist after the eczema of the skin has practically or entirely disappeared. It may exist as a subacute process and be quite troublesome.

I have found the iodine preparations more beneficial in that ill-defined class of eczemas which I call mycotic than any other remedy. The iodine solutions seem to act better than any kind of ointment. The confectioner's diseases of the nails mentioned might possibly be analogous to that dermatitis of the fingers seen in fruit-pickers and fruit-packers in California.

Syphilis, of course, is a very important subject in connection with diseases of the nails. In my experience the extragenital chancre of the finger is not quite so common about the nail as on other portions of the finger. I have seen quite a number of chancres on the fingers and have found that they generally follow some slight traumatism which produces a breach of the continuity of tissue.

In a case of hereditary syphilis which I saw recently there existed a peculiar condition of the nails. They were curled upon themselves laterally until many of them formed a solid mass of nail tissue, so that a cross section would not show the characteristic moon-shape, but a solid round block of nail. They grew out from the finger tip like a piece of round bone rather than like a nail. I do not remember ever having seen anything like it before on the hands of syphilitic children. I have, however, seen very much that same condition in adults.

The observations made by Dr. Zeisler, apply to the teeth as well as to the nails. It is not an uncommon experience to find ridges in the nail-plate after any of the severe infectious fevers and inflammatory conditions in general in which we have a high temperature.

DR. KLOTZ.—I wish to briefly call your attention to the difficulty of finding the parasites in the nails affected by fungoid disease. This is not so strange as even

in ringworm of the scalp it is often impossible to demonstrate the presence of the fungi with the microscope, as stated among others by Dr. Charles J. White, in a paper on the trichophyta. I have been particularly interested in several cases in which the free and the lateral margins of the nails became perfectly black and friable with but very slight inflammation of the surrounding soft parts. This condition was observed mostly in servants doing housecleaning work, scrubbing, etc., or work with their hands in the soil, as in gardening. One patient, a lady in very good circumstances, probably acquired the disease from transplanting plants. It proved exceedingly tedious, but finally yielded to treatment. Chrysarobin colloidium had good effect, but was much too inconvenient. I then used a mixture of oil of wintergreen and ether, which quietly penetrates into the tissue, and effected a cure in a comparatively short time.

In regard to Dr. Bronson's remarks I have seen warts growing under the nail and also the edge of the nail. I recently saw a case in a girl about twelve years of age, where the entire forward part of the nail was lifted up from the nail bed. The disease had lasted two years. Beneath the nail was a mass of horny detritus, upon the removal of which I had a perfect picture of a wart.

Nothing has been said, and it is sufficient just to mention them about the traumatic affections of the nail, particularly the hemorrhages under the nail.

I agree with Dr. Zeisler in regard to the frequency of these transverse furrows of the nails after acute, particularly infectious diseases. I believe they are almost as frequent as falling out of the hair after typhoid fever. I have observed this condition, and in a marked manner, after septicemia. Even after a slight affection, if you watch closely, you can see these furrows. My experience with syphilitic infections of the nails in physicians has been that the lesion always occurred in or near the lateral folds.

DR. HARTZELL.—I was somewhat surprised to hear that eczema of the nails is considered to be quite infrequent and psoriasis quite common. My observation is quite the contrary. In my experience eczema of the nails is not an uncommon affection and psoriasis is.

Mr. Jonathan Hutchinson has called attention to the fact that in the trophic ridges which form in the nails the condition is most marked, first in the thumb-nail, then the index finger-nail, while in the nail of the little finger it may be either entirely absent or very little marked. This observation I have personally confirmed. Furthermore, I have found that these ridges sometimes occur after very trifling indispositions and are occasionally fairly well-marked. I have seen them well-marked after a few days suffering from sea-sickness.

DR. STELWAGON.—None of the gentlemen have called attention to the possible chronicity of ringworm of the nails. During the last few years I have had several cases under my observation, in one of which the disease lasted for nearly eight years, the disease being limited to about a half of one nail. Dr. Crocker, in a recent number of the *British Journal of Dermatology* (Society Transaction) refers to an instance in which the disease had lasted for eighteen years, being limited to one or two nails. I had some years ago another case of a child who had ringworm of the scalp; the mother of this child contracted ringworm of the nail, the fungus was readily demonstrable, and the condition has persisted ever since. I am certain that many cases which are designated as examples of trophic change are in reality examples of ringworm and are due to the invasion of this fungus. A thorough microscopical examination is therefore an important prerequisite for a definite conclusion in many of these cases.

Another point to which attention has not been sufficiently called is that light has some influence on the nail growth. The toe-nails require at least three or four times as much time for growth as do the finger-nails, and I think the only explanation is to be found in the action of the light.

DR. J. C. WHITE.—Dr. Grindon, in his very interesting paper, made some allusions to statistics by Dr. White. I would like to state that the Dr. White he refers to is my son, Dr. Charles J. White, and not myself. I am sorry that he is not here to-day, because he would have presented conclusions drawn from 338 observed cases of diseases of the nails, which he was prepared to present to the Society in connection with this discussion.

With regard to the chronicity of fungoid affections of the nails, I would like to say that in my own experience I have observations running over thirty-two years in one case and forty-five years in another. There was a continuance of the activity of the fungoid growth during all that time. One of the cases occurred in a physician and the other in a business man, neither of whom would ever submit to radical or thorough treatment. I have seen cases of favus of the nail in two or three instances entirely independent of favus in any other portion of the body, although there were other members of the family who were affected by the disease at the same time.

DR. BULKLEY.—This is an exceedingly important subject and I have been very much interested in it. I believe that this subject should come up oftener for discussion, because we know so little of the trophic diseases of the nails, and especially little of their treatment. I am very sorry that Dr. Hardaway was prevented from presenting his paper on the treatment of diseases of the nails.

With reference to the parasitic affection of the nails, it is really surprising how seldom the nurses in the Skin and Cancer Hospital acquire these diseases. This hospital has been in existence almost twenty years, and although we at one time had as many as thirty or forty cases of ringworm and favus, we had only one nurse who contracted favus of the nail. In the Randall's Island Hospital, where we have at least from 150 to 200 cases of parasitic diseases of the scalp and about a hundred more patients with the same in the epileptic and other wards, I have never known of any disease of the nails occurring among the attendants. Dr. Holder, who is also an attending physician there, has made the same observation.

I, too, have been able to establish the extreme chronicity of the fungoid diseases. I had a lady patient whose two sons had ringworm of the scalp, which she personally treated, under my direction about ten years ago and from whom she contracted the same disease in the right thumb-nail. She was an intelligent patient and very faithful as regards treatment, doing everything as well as she possibly could. She subsequently disappeared from treatment and I did not see her for four or five years. When she came back to me the trouble still existed. I again began treatment and the disease is now gradually disappearing and she has almost recovered.

Regarding the matter of chancre beneath the nail, I am now reporting some twenty cases of extragenital chancre, six of which were located on the hands, three at least under the nail. I think that the larger proportion of these cases that I have seen have been under or about the nail.

I have had some extremely interesting cases of ridges across the nail, in which I could date the time of the sickness exactly by the distance of the ridge from the base of the nail. One of them was especially interesting. I never saw a simi-

lar case before. It occurred in the course of a severe attack of alopecia areata. Each nail showed the ridge just at the time the alopecia began. I remarked to the patient that the trouble must have begun about six or eight weeks ago, and she said that that was the exact time when the trouble started.

I quite agree with the speaker who said that eczema of the nails was rather common. I see it very frequently, and I do not see so very many cases of psoriasis of the nails. I also agree with the speakers who said that we cannot, with any certainty, make a distinct diagnosis between psoriasis and other diseases of the nail from that lesion alone. I believe that our influence should go out against the present fad of ladies having their finger-nails manicured. The manicurers are too often very ignorant, and they often scrape and polish very recklessly. I have repeatedly seen affections of the nails which have had their starting point in the workroom of the manicurer. I think, that we ought to protest very strongly against this pernicious practice and do all in our power to acquaint our patients with the exact state of affairs and warn them against the consequences.

DR. D. W. MONTGOMERY.—We have a considerable amount of ringworm on the Pacific Coast, but I do not remember ever having seen a case of ringworm of the nails. As far as favus is concerned, I think that it is even more uncommon than ringworm. The first case of favus I have ever seen on the Pacific Coast came under my care quite recently. It occurred in a boy who came from the south of France. I have never seen any indigenous favus. We have a good deal of leprosy in our section of the country, but most of it comes from abroad. In leprosy patients there are a great many instances of involvement of the nails, and it is owing, frequently, to disappearance of the terminal phalanges. When the terminal phalanx disappears the nail bed falls over the top of the finger, and in such cases the nail sometimes grows out in a solid chunk. I have such a specimen in my possession where that condition existed in quite a number of the nails of both hands. It grows out as a solid prong over the top of the finger tip.

There is an affection of the nails where there is a spontaneous hemorrhage under the nail and a consequent lifting of the nail. I have seen one such instance in an old man with hemiplegia. Shortly after the hemiplegic attack the hemorrhage took place under the nail on the side affected. There was no pain, the nail simply fell off and another nail appeared.

Some years ago I reported the case of a patient having continuous shedding of the nails. I saw that patient a few days ago, and the nails were still falling. Two or three nails are always in the process of falling. He is a perfectly well and strong man. It is one of the rare instances of that trouble, and has been compared by Heller and others to the shedding that takes place in the horns of certain animals, but differs in that it is continuous and not intermittent.

As far as digital chancre is concerned, it just happens that the last two instances I saw were not near the nails. One, a doctor, examined a woman who turned out to have syphilis, and he got his infection through a traumatism on the back of the second knuckle of his index finger. The other case occurred in a medical student, who was infected in the web of the finger, because of the web coming up against the perineum, where there were mucous patches.

In regard to Dr. Allen's inquiry about fruit-pickers, I have never had my attention drawn to that. The fruit-pickers are located quite a distance away from us, and I know very little about this matter. 'Possibly they have this trouble, but I do not know it.

DR. BULKLEY.—Whenever we have an injury at the outer matrix of the nail

or root, a deformity of the nail invariably results. I have an interesting case where there was a bee sting, exactly on the root of the nail, and ever after that the nail has been greatly distorted directly over that point. The sting produced a change in the growth of the nail which ever after made a large deformity, a streak and a depression, which had existed for two or three years. I have seen other instances where an injury of the root of the nail disturbed the nail growth. So far as I know nothing can be done to correct the deformity.

DR. GRINDON (closing the discussion).—Dr. Pollitzer spoke of hyperkeratosis subungualis. I remember seeing a very interesting example of that condition in a boy seventeen years of age. He was the subject of the blue disease. He had a patent Botallo's foramen, and as a result of interference with the circulation had marked clubbing of all the fingers together with incurvation of the nails and accumulation of epithelial débris under the nail.

I am familiar with two types of syphilis of the nail, one, the apparently true type, and the other a mixed type. In the true type there is a continual dryness and breaking off or splitting of the nails, running from the lunula forward. Sometimes only the anterior third or two-thirds of the nail bed is involved. In other cases we have a condition very much like onychia maligna or suppurative onychitis. That is a mixed infection. At present I have two patients, husband and wife, who were syphilized within the last two months. The husband has a dry affection involving all the nails, and the wife had a suppurative onychia of the nail of one finger. I also have under my observation a physician who has had a very sad experience as the result of a syphilitic infection. He now has a hemiplegia. In his case the chancre was situated at the nail fold.

The influence of gout and arthritis were not mentioned in the discussion. Of course, we are all familiar with the reedy nail of gout and in arthritis deformans we also see the same nail and other deformities. Transverse furrows are a very common symptom. I have been on the lookout for them for years and have seen them constantly. I myself had a pneumonia at Christmas time and there is a mark on my thumb now which can plainly be seen. The corresponding nail on the left hand shows the same furrow, less marked. The other nails have never been affected. I think that Hutchinson's observation that these dystrophies are seen more frequently on the thumb nail than on any other is true.

As to dystrophy of the nail occurring with alopecia areata. A woman came to me with a marked example of Michelson's alopecia maligna universalis. She lost her scalp hairs, pubic and axillary hairs, eyebrows and lashes, retaining only the lanugo hairs. Several of the finger-nails also became very much thinned and one of them presented a most peculiar appearance. One longitudinal half of the nail was extremely thin, whereas the other half retained its normal degree of thickness. After a time, the affected half suddenly resumed its normal thickness so that as the nail grew out there was a quartering on the nail like that on a shield. Audry, *Journ. des Mal. Cutan. et Syph.*, March, 1900, reports two cases of alopecia areata accompanied by alopecia of the nails.

As to the etiology of leucopathia unguium. While the majority of these cases are due to direct traumatism, some are due to another cause, such, for instance, as show a white band passing out from the root, indicating that some change has taken place at the matrix. It is extremely likely that there is here imperfect nail formation, that the formation of eleidin is interfered with, which means lessened transparency and thus whiteness.

DR. ALLEN spoke of paronychia in impetigo contagiosa. That is very inter-

esting to me, for while I have seen a great deal of impetigo, we see much of it in St. Louis, I have never seen a paronychia at the same time. As to the relative frequency of eczema and psoriasis, I think that possibly we have misunderstood each other. We all see more eczema of the nail than psoriasis because we see many more cases of eczema in general than of psoriasis, but proportionately psoriasis affects the nail oftener than does eczema.

DR. POLLITZER (closing the discussion).—Dr. Grindon has correctly interpreted the sense of my remarks, namely, that psoriasis of the nails is more common in psoriatics than eczema of the nails in eczematics. So far as I know there are no statistics of eczema of the nails available. Heller has collected some forty-seven cases of nail involvement in 450 cases of psoriasis, a little more than 10 per cent. Though eczema is a much more common affection than psoriasis, the invariably chronicity of the latter may account for the relatively large proportion of cases of psoriasis of the nails. I hope I shall not precipitate a discussion on the pathology of onychogryphosis when I say that I take the view held by Virchow some fifty odd years ago, which has been corroborated and elaborated by Unna as to the pathology of this condition. I think that this disorder of the nails is due to a distortion of the matrix, and nail bed. Whether this distortion is due to pressure of badly fitting shoes or to a trauma which may affect the bed of the nail, or to some lesion which may be of trophic origin, matters very little. The onychogryphosis of leprosy has been referred to. Leprosy of the nerves certainly implies a lesion of the nerves, but the deformity of the nails need not be directly due to the nerve lesion. It may be explained as due to atrophy of the end-phalanges, which will necessarily effect the nail-bed in such a way as to shorten and proportionally broaden it and thus lead to the deformity of the nail.

In regard to leukonychia, I am of the opinion that this condition, whether it be partial or complete, is due to the entrance of air into and between the cells of the nail plate and that the white color is simply an optical phenomenon; that the nail is white in the same way that milk is white. Through some disturbance in the matrix (this seems to be established by Morrison's case) the cells of the nail-plate are not properly hornified, and when the soft and succulent cells are exposed to the air they begin to dry and shrink, and the spaces occupied by them are, of course, easily replaced by air.

Many of the subjects dwelt on by the speakers were not brought out by the readers of these papers because they were not in the classification which was assigned to them by the council. The case described by Dr. Bronson suggests a picture of subungual exostosis in Heller's plates. Of course, the phenomenon is very rare and interesting. With regard to chancres occurring about the nail, I have no new statistics to present, and I am glad to hear that Dr. Bulkley's experience bears out the impression I had formed of the relative frequency of location of chancres on the terminal phalanx.

DR. ZEISLER (closing the discussion).—I believe that all of you gentlemen will agree with me that the doctor, in the course of many years of practice, acquires certain habits. I plead guilty of having the habit of looking at the nails and tongue of every patient that comes to me and I believe I have learned much from it. As to the detachment of the nail at the free border, that is a well-known condition and is always due to a hyperkeratosis of the nail-bed immediately beneath that place. I have seen the condition several times in syphilis.

I would sound a note of warning in regard to manicuring. I recently treated

a patient, not a doctor, but an architect, who was infected during the process of manicuring, and developed a chancre on the index finger.

I have frequently seen warts of the nail and have always ascribed them to traumatism. I saw one case in a violin player where the nails of all the fingers were affected. I was very much interested in Dr. Bulkley's remarks with reference to alopecia areata. It corroborates my conception of the trophoneurotic nature of this disease, which I have maintained in spite of modern views.

Dr. Stelwagon's remarks have opened up a great subject, one which I will not enter into because of lack of time. I would attribute the more active growth of the nails of the hand rather to the more active use of the hands than the effect of light. As to Dr. Pollitzer's remarks in regard to onychogryphosis, I can only repeat that the theory he has offered does not at all fit the congenital cases of which several are on record.

As regards the doctor's remarks on leukonychia, I agree with him, but believe that he will in time modify some of his views as regards the air theory. He is an excellent microscopist, and if he will try and corroborate the findings of Morrison or correct those of Heidingsfeld, we will be very much obliged to him.

NEW YORK DERMATOLOGICAL SOCIETY.

295TH REGULAR MEETING, MARCH 26, 1901.

HENRY H. WHITEHOUSE, M.D., *President*.

A Case of Mycosis Fungoides.—Presented by DR. G. H. FOX.

The patient was a married woman, forty-eight years of age, and she stated that she had suffered from gout, neuralgia, constipation and dyspepsia for some years, but that during the past nine months she had been in rather poorer health than before, and had been very nervous. When first seen on January 15, 1901, there was on each leg a large circumscribed, scaly patch that was very pruritic and seemed to be an eczema. She was put on treatment proper for that disease, but as she had not improved his attention had been called to her again on March 7th. She then had on the anterior surface of each leg over the shin a large, diffused circumscribed, scalloped patch with a raised border. The border was of a darker red than the rest of the patch. The patches were perfectly smooth, soft, glistening, of a lively red tint that disappeared on pressure. They had enlarged since the patient had been seen before, and there were several outlying discs or nodules about the patches and on the thighs and hips. The patches had spread in a serpiginous manner, taking in the outlying patches. The patient stated that the disease began on the left ankle, and that the new lesions were very itchy. On March 21 it was noted that the patches had still further enlarged and had taken in the outlying patches. Some new nodules had appeared. The inner part of the large patch on the left leg was decidedly paler than before. The patches were tender to slight pressure, and stinging and burning were complained of.

DR. C. T. DADE thought it was a case of mycosis fungoides in the stage of infiltration.

DR. C. W. ALLEN said that the case suggested lupus erythematosus, though he

would not be willing to make that diagnosis. He would wish to observe it for some time without treatment, and see how the edematous portion would act.

DR. J. A. FORDYCE said the possible diagnosis of mycosis had occurred to him, but he would hardly like to make a diagnosis without having observed it for some time. It was not common for mycosis to begin in such a localized form. He did not think it was an example of lupus erythematosus.

DR. H. H. WHITEHOUSE was also inclined to the diagnosis of mycosis fungoides.

DR. FOX said that he had made quite a positive diagnosis of mycosis fungoides from a slight resemblance to a case seen by him some years ago. That case had occurred in a lady from the West, who had had discs all over the body which were not at all scaly. The itching had been terrible, and the eruption not at all affected by treatment. It seemed to be a persistent erythema. When seen by him a year later he had made the diagnosis of mycosis fungoides at once because of certain typical semicircles and characteristically fantastic outlines. In the case under discussion there were some outlying discs and rings similar to those found in the case to which he had just referred. He was of the opinion that in some cases of mycosis fungoides the tumors would often develop *de novo* without any eczematous premycotic stage. He had seen in one or two advanced cases tumors develop on a healthy skin without any previous condition.

A Case of Keloid and Fibroma.—Presented by DR. FOX.

The patient was a colored woman having on the back pedunculated tumors, apparently fibromata, of eleven years' standing. Across the sternum and upon the arm were elongated tumors of a somewhat firmer consistence which were apparently keloid. The question arose as to whether these two growths were of the same character as those on the back.

DR. FORDYCE was inclined to think that the whole process was keloidal, though he had never seen a pedunculated keloid. The smaller growths on the back presented exactly the same appearance as those on the chest.

DR. GEORGE T. JACKSON thought the case was one of keloids on the chest and fibromata on the back. They seemed to him to differ in texture and general character.

DR. DADE took the same view of the case as Dr. Jackson. He had never seen nor read of a pedunculated keloid, and thought it was contrary to what is known of the manner of the growth and extension of keloids that they should be pedunculated. Further, he thought the skin over these two sets of growths was quite distinctive in appearance, that of the chest group, which he took to be keloids, being of the usual tense and shining character with the dilated blood vessels coursing over the surface common to these growths. While that of the pedunculated group over the back had none of these features, but looked in every way like the normal integument usually found covering fibromata of this type.

DR. H. G. KLOTZ said that he considered the growths on the back as fibroma. The skin over these tumors was normal, showing a perfectly normal epidermis and cutis except for the thinning due to stretching while the keloids in the front did not show any normal but irrational tissue. If there was the same pathological process present in both instances it apparently was subcutaneous in the fibromata and instantaneous in the keloid.

DR. FOX said that colored people are prone to have small fibroid tumors about the face, but he did not recall having seen a pendulous fibroma of the skin in a negro. The growths anteriorly were undoubtedly keloidal, although they were

not painful as these growths usually are. The tumors in front were much firmer and glistening than those on the back, and were sessile instead of pedunculated; nevertheless he was inclined to think that they both represented the same disease. Concerning the question of whether keloids are ever pedunculated he thought if the tumor were very large, the base would be constricted, and might even be pedunculated. The patient under discussion had never been treated surgically. He thought if the tumors were removed a keloid would develop at the site of the scar.

DR. ALLEN said that the bases of the tumors on the back were undoubtedly keloidal.

DR. WINFIELD also thought there were both fibromata and keloids present.

DR. WHITEHOUSE thought if there had been no keloids on the chest there would have been no question raised as to the diagnosis of the tumors on the back.

A Case Presented by Dr. Fox for Diagnosis.

This patient was a man, forty-eight years of age, an iceman by occupation, who had lost forty pounds in the last two years. Nine years ago, in a fight, his right hand had come in contact with an opponent's teeth, but the wound thus produced had soon healed, and there had been no return until a few months ago, when a small running sore had developed without apparent cause, and had spread rapidly up to one week ago, when treatment had checked its spread. At that time it had been very painful and tender, so that no work could be done.

DR. J. M. WINFIELD said that the appearance of this case suggested tuberculosis of the skin.

DR. C. W. ALLEN thought it was a tuberculous process, and this diagnosis seemed to find confirmation in the man's general appearance, and his tendency to repeated colds.

DR. OSCAR H. HOLDER said that under the microscope the sections showed no giant cells, although it was true that the punches had not reached down to the point where giant cells should be. The tissue was soft and friable, and bled a good deal. A guinea pig had been injected with some of the pus, and the result would be reported later. No typical tubercle bacilli had been found.

DR. KLOTZ agreed with Drs. Allen and Winfield that the man's general appearance should be in favor of a diagnosis of tuberculosis.

DR. FORDYCE said that from the microscopical examination he would look upon the case as one of streptococcus infection of the skin similar to the case presented last year by Dr. Robinson. That case had been thought at the time to be one of blastomycetic dermatitis, but it had proved subsequently to be one of streptococcus infection. He had himself had a similar case.

DR. WHITEHOUSE said that the clinical appearance of the hand seemed to him to be an infectious process—probably a staphylococcic dermatitis.

DR. JACKSON said that the history of the case indicated too rapid a process for tuberculosis.

DR. DADE said that he had seen the case previously and was convinced from the first that it was a case of tuberculosis verrucosa cutis. Subsequent examination of the pus had revealed tubercle bacilli and a section of a specimen removed from the border of the lesion showed ordinary tubercle tissue with many giant cells. The patient's system also was found to contain tubercle bacilli. The inflamed and painful condition of the hand when first seen was no doubt due to

secondary infection, which had now disappeared under the usual surgical dressings.

DR. FOX said he had made a diagnosis of tuberculosis cutis. At that time there had been a great deal of dermatitis, and this had greatly improved in a short time under comparatively simple treatment. If this could be completely cured by non-surgical treatment he should look upon it as a simple infection; on the other hand, if this could not be done, he would look upon it as unquestionably one of tuberculosis of the skin.

A Case of Folliculitis Decalvans.—Presented by DR. GEORGE T. JACKSON.

The patient was a male student, twenty-four years of age, of a not very robust type, and of a nervous temperament. In November, 1900, a number of small, perfectly bald areas were noticed on his scalp. For this he was treated by a physician, and had told that he had a peculiar case of ringworm. Epilation was practised, and antiparasitics, principally bichloride of mercury, used. On January 12, 1901, he was first seen by Dr. Jackson. At that time there was more or less scaling of the whole scalp, with some slight redness. Over the whole top of the head were scattered a number of irregularly shaped bald areas that were red and depressed. A number of hairs were plucked and examined for ringworm, but no fungus found. On February 9 it was noted that under soothing treatment the redness had decreased, and that the areas seemed atrophied. About them and in them were a number of papules that on pressure were found to be simply stopped up hair follicles out of which large comedo-like masses could be pressed, and from which the hair had fallen. By February 25 no new patches had formed, and a few lanugo hairs were seen in some of the patches. At present he could see no change from the condition of one month ago, so far as the scalp was concerned. The case was of interest because the diagnosis of ringworm had been made by an experienced dermatologist, and because of the irregular shape of the patches, which otherwise resembled those of alopecia areata.

DR. KLOTZ said that the case impressed him as one of alopecia areata.

DR. FOX thought it was similar to a number of which he had photographs, and in which the outline of the alopecia is the same, the location on the anterior crown of the head is the same, and where there is a tendency for groups of follicles to become plugged, so that the hairs will come out with the root sheaths adherent. It did not appear to him to be a case of alopecia areata, but rather one of folliculitis decalvans. All the spots of alopecia he believed had been preceded by follicular disease. The alopecia in this case he believed would be permanent, as that had been his experience in most other cases. Even now, although the disease seemed to have reached the end of its course, the hairs were not loosened around the bald spots.

DR. ALLEN said he did not think it was an alopecia areata because of its localization, nor was it ringworm. Adults could have ringworm, but it was extremely rare. He agreed with the last speaker that it belonged to the class described as folliculitis decalvans, and that the baldness would be permanent.

DR. WINFIELD said that he had seen in the last two years two or three similar cases, and had been in doubt as to the proper classification. None of them had begun as ringworm, and they never recovered with hair. Most of the cases that he had seen had presented smaller patches and always on the crown of the head. One case had occurred in a child of fourteen years in a children's home where there had been a great deal of ringworm, but he had never been able to find any ringworm in that particular case. The hair had grown again.

DR. FORDYCE agreed with Dr. Fox that it was a case of folliculitis decalvans, an infection of the follicles resulting in permanent destruction of the hair.

DR. WHITEHOUSE took the same position.

DR. JACKSON said that he had not observed any inflammation at all in this case, certainly no evidence of follicular inflammation. The case belonged to an unnamed form of alopecia. He did not think the hair would grow again.

A Case of Pompholyx.—Presented by DR. C. W. ALLEN.

The patient was a young girl, a worker on white underwear, whose hands were covered with vesicles and large bullæ. There had been several attacks in previous years.

DR. FORDYCE agreed with the diagnosis in view of the history regarding the attacks.

DRS. KLOTZ, JACKSON, WHITEHOUSE, DADE, FOX and WINFIELD also accepted the diagnosis.

DR. ALLEN said that the eruption on the face he had looked upon as an incidental dermatitis resulting from improper care of the face with hands which were infected with pus organisms. It was his custom to give these patients arsenic internally, and to use locally the acetate of aluminum. This lotion probably acts as an astringent and antiseptic.

A Case of Pigmentation of the Skin.—Presented by DR. J. A. FORDYCE.

The patient was a man, fifty-two years of age, a mason by occupation. Ten years ago he had had an eczema of the face, and this had persisted. He had had eczema of the hands for several years. There was a peculiar pigmentation of the skin, which he says appeared last summer, and followed a generalized eruption with itching and exudation. The eruption closely resembled an arsenical pigmentation, but the patient had not taken arsenic so far as he knew.

DR. WINFIELD thought this eruption was due to arsenic, and that it was probable that the man had had arsenical medication as he had consulted so many physicians.

DRS. ALLEN, DADE and WHITEHOUSE concurred in the diagnosis.

DR. FOX said he had a photograph of an epileptic who had been treated for a long time with arsenic, and another photograph of a boy with psoriasis who had been treated a short time with arsenic, both showing a similar pigmentation of the skin.

DR. FORDYCE said that he was inclined to think it was an arsenical pigmentation, but the fact that, according to the history, it had occurred after an acute generalized eruption threw some doubt on this diagnosis.

A Case of Pemphigus Vegetans.—Presented by DR. FORDYCE.

DR. FORDYCE reported the case of a man, twenty-nine years old, born in Hungary, who had blisters in the mouth, and on the right axillary space and chest. The first attack had lasted three or four weeks. The lesions in this attack had been followed by papillomata. There was no impairment of the general health. At present there were bullæ, pustules, and abrasions about the face and lip in the axillæ and elsewhere.

DR. FORDYCE reported that the bullæ had disappeared in the case of bullous eruption presented by him at the last meeting.

DR. ALLEN reported regarding the case of hereditary syphilis presented by him at the last meeting, that she was improving, the pseudo-keloidal scars disappearing very rapidly under electrolysis.

DR. ALLEN also reported regarding the case of follicular urticaria, that a few real urticarial lesions had since developed on scratching. The patient had been put upon pilocarpin, as suggested by Dr. Lustgarten, and while it had made him sweat it had caused salivation and sick stomach without improving the urticarial condition.

DR. WHITEHOUSE reported regarding the case of guttate psoriasis he had presented at the last meeting, that the lesions were rapidly improving under white precipitate locally and small doses of arsenic internally.

DR. FOX reported concerning the case of keratosis pilaris presented at the last meeting, that the man had been seen since and the eruption had faded a good deal, but the spines were still there.

DR. ALLEN reported upon a young man whom he had shown recently with an ulcer running down into the meatus and involving the canal. There had been an operation some years ago for adherent prepuce, since which the glans was continually desquamating. There had been a good deal of hardness around the corona glandis, as well as about the meatus, suggesting epithelioma. The patient had been put upon antisyphilitic treatment, though there was no specific history and the ulcer had entirely healed and all induration had disappeared.

Book Reviews.

A Manual of Bacteriology—By HERBERT V. WILLIAMS. Eighty-nine illustrations. Second Edition. 1901. P. Blakiston Son & Co., Philadelphia.

The author in his preface remarks that "the purpose of this book is to give in the smallest possible space the facts which a physician—not a trained bacteriologist—must know, with some of those which it is desirable that he should know, and a little of that which he may learn if he wish to go further." To set out to do this in 300 duodecimo pages is certainly ambitious, but Dr. Williams appears to have succeeded in the attempt so far as is humanly possible.

Obsolete or useless methods and minutiae of technique which have been handed on from one text-book to another for years have been practically eliminated, whilst the useful and up-to-date ones are described in a most refreshingly brief and lucid manner. The non-pathogenic bacteria are lightly touched upon, but sufficiently so for the physician, whilst the seventy-five pages devoted to the pathogenics do not contain one of padding.

It is an immense relief to find in the introduction that one need not worry about genera and species, as so many professors seem to think necessary, but that all bacteria can first be divided into bacilli, cocci and spirilla, simple and sufficient. The illustrations have been carefully selected from various sources, and altogether the work cannot be too highly commended. Buxton.

La Pratique Dermatologique. Tome I. Edited by MM. BESNIER, BROCC and JACQUET. Paris: G. Masson et cie., 120 Boulevard St. Germain. 1900.

The conviction forces itself on the reader as he comes to the end of this first volume that the French are worthily preserving the best traditions of their school. It matters very little that some of the faults are glaring, in Saxon eyes; it is never easy to determine whether these same errors are not honest differences of opinion. There are, however, two which certainly cannot be glossed over, prolixity and

the lack of proper recognition of work done outside the Franco-German fold. Brocq, Thibierge and Dubreuilh show less of the tendency than Darier and Sabouraud. No one can object to a proper exaltation of their own countrymen, but when omissions lessen the value of an article, it is time to call a halt. The volume's dress is most beautiful, page size, paper and letterpress and the colored plates are nearly perfect, but the half-tones are much inferior to the photomicrographs which have appeared in such quantity here of latter years. It is quite worth while to beat the Gaul in any part of his chosen field of art. The order of discussion is alphabetical, but a sop is thrown to the Cerberus of classification in the shape of a lengthy treatise on the more worthy of those which have been put forward. The chronic shortcomings of "systems" are apparent, overlapping and divergence of author's opinions. It wears on the short twentieth century patience to look up a disease in two or three places. One could wish that space had been found for a history of dermatology. M. Besnier would have made it charming reading.

Darier begins the general considerations with an admirable discussion of the anatomy, normal and pathological, of the skin, the etiology of its diseases and its physiology. The first is founded on Ranvier's histology, which is incomparable. Some minor points are of interest. Darier says the spines run from cell to cell in the rete, and the illustrations shows them *passing through* the cell substance as nerve filaments do in the central system. He holds that eleidin and keratohyalin are the same, existing in grains or larger flakes, and that it as well as the fat of the horny layer and the prickles are elaborations of the protoplasm of the mucous body. He denies the penetration of elastic fibers or nerve filaments into the epidermis, quite properly. The present terminology of the hair follicle might be largely dispensed with, no loss resulting. There is no explanation of the assertion that air enters the hair shaft. Physiology is divided into two chapters, nutrition and function. Darier agrees that the sweat always contains fat, but denies Unna's contention that it furnishes also the epidermic fat. Causes of disease are divided into active (traumatic, toxic, nervous, parasitic, infectious and dystrophic) and predisposing (heredity, idiosyncrasy and physiology), as good a division as any because it cuts no figure. There is one criticism to be made of the pathology, the totally inadequate discussion of the cells of connective tissue as compared with those of hematogenous origin. There seems no adequate reason for the class of "dyskeratoses." The appearances in keratosis follicularis, molluscum contagiosum, etc., are not due to failure, partial or complete, of keratinization, but to cell inclusion and degeneration. Few observers will agree that lymphosarcoma is, next to epithelioma, the commonest of malignant tumors. There is a likeable thing about Darier's work—his use of the personal pronoun. The courage of his convictions carries him to the point of rephrasing the old definition of inflammation, "reaction to injury."

Brocq's "thankless" job of general pathology has this interest for the reviewer that he includes among consecutive lesions his lichenification wherein he is entirely within his rights.

Acanthosis nigricans falls properly to Darier, who first pointed out its connection with carcinoma. His histology makes it evident that the title is correct and that Kaposi's criticism of it is not founded on profound research.

Thibierge includes under the head of Acne and gives each a separate discussion, punctate, pustular, rosacic, necrotic and hypertrophic varieties. One would think it had been sufficiently demonstrated by now that rosacea is not acne. In

etiology he lays the entire blame on the sebaceous glands, secretion retained by a keratotic plug being infected by many organisms, chief of which is the microbacillus of Unna-Sabouraud. Necrotic acne (varioliform) is bodily removed from the mass of the tuberculides, a feat in Gallic literature, while he says that Fordyce's case is one of the most remarkable of the *tuberculides nécrotiques*. The reason for separating comedo and acne, and rosacea and its hypertrophic stage does not appear. It is pleasing to observe that acnitis and acne urticata are not considered.

Bodin's Actinomycosis contains a complete history of the parasite in and outside the body. Darier narrows the term Adenoma to new growths of the glands, but he makes a singular omission in not mentioning spiradenoma. Syringadenoma he calls eruptive hidradenoma and rightly includes in it Kaposi's lymphangioma multiplex, but wrongly cystic epithelioma, at least the cases reported here.

Brocq divides his Alopecias into traumatic, those of local origin and those seeming to depend on general conditions, and considers them at great length. His chapter on treatment is admirable. Why congenital amputations should be included in this treatise does not make itself evident. A departure from the ordinary is found in the discussion by Brocq of methods of producing local Anesthesia. Dubreuilh's Angiokeratoma is a critique. He would eliminate both Zeisler's and Fordyce's cases, which he calls pedunculated angioma and capillary varices. Darier contributes another novelty, Biopsy, in which he gives the details of preparation of tissue for histological examination.

Raynaud is not able to throw much light on the etiology or treatment of Oriental Boil, but thinks the contagion is spread by insect bites. Caraté is a subject new to Americans, which will become of importance, as our trade with South America increases. It is characterized by macules of various colors followed by false vitiligo and is caused by a fungus. There is a good colored plate. This review has already exceeded its space limits, but enough has been said to show the care taken in the work and its vast importance. The reviewer's best compliments go to Brocq for his Dermatitis Herpetiformis under the hideous name he has insisted on giving it, to Sabouraud, on his Dermatophytes, and to Dubreuilh on Dermatozoa. They are well deserved in other places; these articles only happen to be more important. The price of the first volume is 36 francs (\$7.20).

JOHNSTON.

Selections.

GENTO-URINARY DISEASES.

Personal Experience in Operations for Stone in the Bladder.—By A. T. CABOT, A.M., M.D. (*Johns Hopkins Hospital Bulletin*, May, 1900, page 107).

CABOT reports his observations in 135 cases in which he operated for stone. He performed litholapaxy 122 times, suprapubic lithotomy 12 times, and perineal lithotomy once.

The majority of the stones were phosphatic, and depended upon the cystitis set up by enlarged prostates. The average age of the patients was somewhat over sixty years, and in most of them either the bladder alone or the bladder as well as the kidneys, was more or less affected.

Litholapaxy was the operation of choice except when for some reason the cut-

ting operation seemed preferable. Of the 122 litholapaxies, six patients died within a comparatively short time after the operation. Patient 1, aged sixty-nine, died ten days after operation, from pneumonia following severe chronic bronchitis; patient 2, an old man, died after twenty-four hours of suppression of the urine in which condition he was brought into the hospital prior to the operation; patient 3, aged sixty, died three days after operation, having suffered from chronic bronchitis and feeble heart before the operation; patient 4, a woman, aged sixty-two, died six weeks after operation, cause of death being ascribed to tuberculosis, of which patient had suffered before admission to hospital; patient 5, aged eighty-four, died twenty days after operation, of pulmonary embolus; patient 6, aged seventy, died suddenly on the third day after operation, the autopsy showing a condition of pyelitis and pyelonephritis. If all of these fatalities, except the one due to tuberculosis be ascribed to the operation, the mortality reaches 4 per cent. As everyone of the patients who died was in a seriously damaged state before the litholapaxy, we have a right to feel that on a healthy subject the operation is practically devoid of risk.

The results in some of the fatal cases lead the author to favor a suprapubic lithotomy under cocain anesthesia in patients suffering from serious chronic bronchitis.

In two of the cases, litholapaxy had to be abandoned for the suprapubic operation, because the enlarged prostate resisted the passage of the lithotrite. A strictured urethra adds little difficulty to the operation. If the stricture yields to divulsion, the instrument can be made to pass through and the operation performed. With stricture in the perineum, a urethrotomy may be done and the lithotrite inserted into the opening thus made. Perineal litholapaxy is easier than the urethral operation. The patient is placed in the lithotomy position, the stone rolls back toward the bladder fundus, and here it is easily reached by the instruments.

In all the litholapaxies, there was but one accident—rupture of the bladder (already reported). The bladder was very intolerant and highly spasmodic; it held only two ounces of fluid. The stone was a small one, and was crushed without difficulty. During the operation the water was retained in the bladder by means of a rubber band tied around the penis. In this way the bladder ruptured itself. Laparotomy showed an extra-peritoneal rupture, the effusion being under the peritoneum on the left side of the pelvis. The collection of fluid was drained and the patient recovered, but always continued to have an irritable bladder.

The author concludes by affirming his belief, expressed in 1889, that litholapaxy should be employed except in the presence of one of the following conditions:

(1) A very large and hard stone may resist crushing, especially if it is tightly grasped by the spasmodically contracted bladder.

(2) The nucleus of the stone may be a foreign body such as a piece of necrosed bone or a bullet, too hard to crush and too large to pass out through a tube.

(3) An encysted stone may be out of reach of the lithotrite.

(4) False passages may exist which make the introduction of instruments dangerous.

(5) Anchylosis of the hip may interfere with the use of urethral instruments.

(6) The stone may be lodged in the prostatic urethra so that it cannot be pushed back into the bladder.

(7) When the constant recurrence of a stone makes it seem probable that an ulcerated patch exists in the bladder and is leading to a calcareous deposit, the suprapubic operation is required for the removal of this local condition.

(8) In the presence of an obstructing prostate the suprapubic incision will sometimes be advisable with the object of removing the obstruction. The removal of the stone is merely an incident in this operation. A. L. W.

Sarcoma of the Testicle.—By JAMES PEDERSEN, M.D. (*The Post-Graduate*, August, 1900).

PEDERSEN comments on the apparent contradictions in the statistics compiled by different observers bearing upon the occurrence of sarcoma of the testicle. As to the occurrence of carcinoma and sarcoma taken together, the occurrence may be stated as low, though it may be difficult in certain cases to distinguish even with the aid of the microscope, between carcinoma and sarcoma of this organ.

Sarcoma of the testicle may occur at all ages, even in infancy, and the small round-celled sarcoma is frequently congenital. Between thirty and forty is the most usual period in which it is seen. It is usually unilateral in growth.

The weight of evidence seems to point to traumatism as playing an important part in the development of neoplasms of the testicle. The explanation is found in Cohnheim's theory that the traumatism sets free an embryonal cell that had become imprisoned during the embryonic period and which without the exciting cause would have remained imprisoned and dormant indefinitely. Whether a syphilitic orchitis or a gonorrheal epididymitis ever leads to a malignant growth is very doubtful.

The classification of the French authors, Monod and Terrillon, is adopted:

(a) *Fibro-sarcoma*. Occupies position between medullary and scirrhous. Varies greatly in size.

(b) *Myxo-sarcoma*: Mixture of mucoid and sarcomatous tissue. Rare.

(c) *Cysto-sarcoma*: Conglomeration of sarcomatous tissue and cysts, the latter varying in size from a hemp seed to a hazel nut. The cysts are filled with serous or colloid fluid and from their walls grow papillary vegetations covered with epithelium like that lining the walls of the cysts themselves.

(d) *Angio-sarcoma*, also *Plexiform Sarcoma*: A red pulpy mass, evidently vascular, with hemorrhagic areas and caseous foci.

(e) *Neuro-sarcoma*, or *Glio-Sarcoma*: Extremely rare.

(f) *Melano-sarcoma*: Are regularly secondary and have the same structure and pigment as the primary growth.

Sarcoma usually develops first as a hard nodule in the body of the organ, rarely in the epididymis, when it also involves the body of the testicle. The tumor is tender, more or less, the overlying skin is non-adherent and normal, except for enlargement of the veins. No translucency. Considerable pain, augmented by the dragging weight of the mass. A very characteristic feature of sarcoma is the formation of soft areas—cysts—in the tumor. The skin later becomes adherent, the pain increases, metastatic deposits take place and death from exhaustion follows in from one to two years.

Differential diagnosis should be made from inguinal hernia, acute and chronic hydrocele, hematocele, acute inflammatory affections, benign new growths and cysts, tuberculosis, and gumma. .

In tuberculosis the age (twenty to thirty), and the presence of a tubercular focus elsewhere, furnish aids in the diagnosis. The process begins in the epididymis, not in the body proper, as in sarcoma; nor does it invade the body itself.

Late syphilitic epididymitis often simulates malignant growths so that nothing but anti-syphilitic treatment will clear up the diagnosis. A. L. W.

Experimental Injection of Testicular Fluid to Prevent the Atrophy of the Prostate Gland in Dogs after Removal of the Testes.—By GEORGE WALKER,

M.D. (*Johns Hopkins Hospital Bulletin*, December, 1900, page 322).

WALKER presents a preliminary report of a series of experiments instituted to determine the relationship existing between the prostate gland and the testes.

In a number of healthy dogs selected for the purpose, the testicles were removed; one-half of the number were injected with testicular fluid, every other day for five months and eighteen days. The other half were kept as controls. All the dogs were kept in the same place and fed on the same food.

The testicular fluid was prepared as follows: twenty-five or thirty dogs were killed and their testes removed immediately thereafter. The glands were carefully freed from the tunica vaginalis and the vas; the epididymis was allowed to remain. The organs were then washed in water and ground to a fine pulp; to this partially fluid mass was added an equal amount of 50 per cent. aqueous solution of glycerine. The mixture was put on ice, where it remained for fifteen hours, after which time it was strained through a fine cloth. As a preservative, a small amount of trikresol, dissolved in glycerine. The extract was kept in a wide-mouthed bottle at the ordinary room temperature for a number of weeks, during which time it remained pure and free from bacteria. One hundred and twenty testes furnished about 2,000 c.c. of the extract.

Ten c.c. of this fluid were injected into the animals, every day during the first ten days. Various parts of the back, loins and thighs were injected, with an antitoxin syringe. After ten days the dogs became droopy, failed to eat, and did not care to play. The injections were stopped for several days, and they rapidly regained their normal health. The injections were resumed and given every alternate day; no further trouble ensued.

At the end of five months and eighteen days, all the dogs were killed by chloroform; their glands were removed, examined and fixed in a solution containing 3 per cent. chromic acid and 5 per cent. acetic acid.

The results were as follows: The prostate gland in the injected animals presented both macroscopically and microscopically the same changes that had occurred in the uninjected ones. It may therefore be said, that the injections of the testicular fluid had apparently no effect whatever, and one is probably justified in concluding that the atrophy of the gland is in no way connected with the absence of any substance in the testicular secretion. A. L. W.

Ureteral Implantation into the Bowel for Diversion of the Urine.—By JACOB FRANK, M.D.

From a series of experimental operations on dogs, Frank concludes, 1, that the technic is all that can be wished for; 2, bilateral implantation into the rectum simultaneously is primarily and remotely an extremely dangerous procedure, and can have no favorite place in human surgery; 3, while no single permanent implantation of the ureter into the rectum has demonstrated an absence of inflammatory reaction on the part of the kidneys, nevertheless he is of the opinion that it must be regarded as justifiable where other means fail, and has a limited

place in pelvic surgery; 4, while stricture did not take place, we cannot say with confidence that scar contraction at the opening into the rectum will not in months or years produce one; 5, that the rectum will tolerate the presence of urine cannot be doubted by any one and has been proved by many experimenters.

A. L. W.

Orchitis and Epididymitis in Typhoid Fever.—By FRANCIS P. KINNICUTT, M.D.
(*Medical Record*, May 25, 1901, page 801).

In reporting two cases of epididymo-orchitis occurring in the late stages of typhoid, Kinnicutt discusses the literature of the subject, and concludes:

1. That epididymitis and orchitis occurring in the course of or during the convalescence of typhoid fever is a rare lesion and is of typhoidal origin.
2. Only very exceptionally is it due to secondary microbic infection.
3. It develops at a late period in the disease or during convalescence.
4. The lesion, although as a rule unilateral, may be bilateral; and involves either the epididymis or testicle, or both, and not infrequently the cord.
5. Effusion into the tunica vaginalis is rare.
6. Termination most often is by resolution.
7. Suppuration occurs in 25 per cent. of all cases.
8. Localized necrosis and extrusion of testicular tissue is not uncommon.
9. Exceptionally there is destruction of the entire testicular strictures.
10. Atrophy of the testicle, occurs, but is a rare sequence.
11. The lesion gives rise to little constitutional disturbance.
12. Death as a result of the lesion has not been noted.

A. L. W.

Hematuria Following the Administration of Urotropin.—By W. LANGDON BROWN, M.A., M.D., M.R.C.P. (*British Med'l. Journal*, June 15, 1901, page 1472).

BROWN reports two cases of typhoid fever in which hematuria was apparently caused by the administration of 30 grains of urotropin, daily, for eight days.

Usually urotropin is of benefit in those cases of hematuria resulting from nephritis in typhoid fever. Of 82 cases of typhoid, at the Metropolitan Hospital, urotropin was administered in 13, and in one of these hematuria occurred, but the patient was taking turpentine at the same time.

Discomfort, which preceded the hematuria in both cases here reported, should be considered a danger signal when employing urotropin.

A. L. W.

Movable Kidney—Its Cause and Treatment.—By M. L. HARRIS, M.D. (*Journal of Am. Med'l. Ass'n.*, June 1, 1901, page 1527).

HARRIS defines movable kidney and describes methods of examining the organ. Only when a portion of the kidney can be distinctly grasped and outlined between the two hands is it said to be palpable. From one to two-thirds of the kidney may thus be palpated. When more than one-half the organ can be outlined and it can be made to recede out of reach during exhalation it is said to be movable to the first degree. In case both hands can be brought together above the organ, it is movable to the second degree, and if it can be depressed to the pelvic brim or moved to or beyond the midline, it is movable to the third degree. The author's statistics show that 56 per cent. of women examined had distinctly movable kidneys on one or both sides. The etiologic factors usually mentioned—repeated pregnancies, prolapse of uterus and vagina, retro-displacements of the uterus, absorption of fat in wasting diseases relaxation of abdominal walls fol-

lowing removal of intra-abdominal tumors or ascitic accumulations—have very little or no influence in giving rise to movable kidneys. Over 40 per cent. of the cases of movable kidney were found in women who had never been pregnant, whose perineal floors were intact and whose uteri were in normal position.

It is admitted, however, that these factors may, and perhaps, do at times, aggravate the condition caused by other influences. Conclusions:

1. The fundamental cause of movable kidney is found in the relation which exists between the location of the kidney and a particular body form.

2. The chief characteristics of this body form are a marked contraction of the lower end of the middle zone of the body, with a diminution in the capacity of this portion of the body cavity.

3. This diminution of the capacity of the middle zone depresses the kidney so that the constricted outlet of the zone comes above the center of the organ and all acts, such as coughing, straining, lifting, flexions of the body, etc., which tend to adduct the lower ribs press on the upper pole of the kidney and crowd it still further downward.

4. It is the long continued repetition, in a suitable body form, of these influences, which collectively may be called internal traumata, that gradually produces a movable kidney.

5. A distinctly movable kidney is never the immediate result of a single injury or external trauma.

When it is evident that symptoms with which a patient suffers are due to a movable kidney there is little reason to hope for permanent relief by any other method than that of operative fixation of the organ. The tendency in recent times has been to fix the kidney too high up, apparently from the idea that the disturbances were due rather to the fact that the kidney was too low than that it was too freely movable. The guiding principle in fixing a movable kidney is to take into consideration the body form and fix the organ in a location where it will not again be subjected to the same influences which caused its descent. This means that the kidney should not be crowded up to the highest point, but fixed lower down in an easy position and so the ureter will escape at the most dependent part. If this be done the chief cause of relapse will be removed.

The object of the operation is to so close the space bounded by the prerenal and retrorenal fasciæ, sometimes known as "Gerotta's space," and contract the pouch or sac in which the kidney lies, that the organ will no longer have a free space in which to move. No stitches involve the kidney substance. The clinical results of this operation (which is described in detail) have been good, and in patients examined as long as two years after the operation, the kidney has been found still in the location in which it was fixed and without any increase in its range of motion.

A. L. W.

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A CASE OF GANGRENE IN A NEW-BORN CHILD.¹

BY EDWARD BENNET BRONSON, M.D.,
Consulting Physician to the Babies' Hospital.

HELLEN R., age 4 days, was admitted to the Babies' Hospital on March 14, 1901. The child was well formed, well nourished, bearing the appearance of perfect health, except for certain gangrenous lesions that involved portions of the right side of the head, neck, shoulder, and hand. The mother was about 35 years of age, of good health, and had had two previous children, aged 5 and 7, respectively, both appearing perfectly healthy, and had had one miscarriage. Concerning the birth of Helen, from statements made by the mother and by the attending physician, the following data were gleaned: The labor lasted for about twenty hours. Some three hours before birth, all pains ceased and when delivery took place it was sudden and unexpected. The physician was not present, and did not arrive till a half hour or more after the birth. The mother states that a female friend, who came in to assist her, on being requested to see that the cord was all right, told the mother that it was wound twice about the neck. It was unwound, but not divided. When the physician arrived, he at first attended to the mother. Having delivered the placenta, he turned his attention to the child, which had been lying in a pool of blood, and crying lustily almost from the moment of its birth. On examining the child the doctor's attention was attracted to a peculiar lesion on the right cheek. It was about two inches in diameter, appeared black in the

¹ Read before the American Dermatological Association, May 31, 1901.

center, with flaccid bullæ upon it and at the periphery. There was also a spot similar in character, but not so black, on the right shoulder and another on the posterior, radial side of the hand, extending from near the wrist to the end of the index finger. A lotion was prepared in a basin, by mixing a half dram of lysol with about a quart of water, and a gauze dressing, dipped in this, was applied to the lesions. Also sub-nitrate of bismuth was applied. The next day the lesions, especially that on the cheek, had increased in size and there were more bullæ. The mother noticed that the affection was extending beyond the gauze dressing.

The above details were, for the most part, furnished by the physician in a conversation over the telephone, and in all essential particulars were corroborated by the mother. It was further stated by the mother that no applications were made except by the physician.

The woman who assisted the mother before the arrival of the doctor, at a recent, independent interview, also confirmed the statements as given above. Her description was a little vague, but seemed perfectly clear as to the fact that there was some peculiar affection on the child's face that looked black, and, as she expressed it, "like a crust." She first saw this immediately after the child had been washed, and said that when the doctor called attention to it he tapped it with his finger, and it sounded "hard, like a board."

An effort was made to obtain a subsequent interview with the physician who was in attendance, in order that additional and more precise details might be furnished, but unfortunately such an interview was not granted.

The fourth day after its birth the child was brought to the Babies' Hospital, in New York, when the following notes were made:

There is a black, leathery patch on the right side of the face, involving cheek, ear, neck, and extending down onto the shoulder. There is also a small patch on the outer side of the right hand. The patch on the cheek is depressed, and the surface glazed and dry; the color a greenish-black; at the margin a slight, red areola, scarcely one-quarter inch wide, with very little infiltration or inflammation, and in some parts the areola is absent entirely. Where the affection seems to be advancing there is, first, a discoloration of the skin, of a very dark-brownish color and slight elevation of the cuticle by serous exudation. Later the patch turns much darker, and dries up. There is no discharge or moisture anywhere. The entire ear is involved, and is shriveled and mummified in appearance. The part of the cheek that is involved is uneven, as though warped and depressed below the surrounding surface, nearly one-quarter of an inch, due apparently to



desiccation of the necrosed tissues. It extends along the zygomatic arch, from a point a little outside the outer angle of the eye backward, in a curved line that runs just above the top of the ear and descends three-quarters of an inch behind the ear, down to about the junction of the neck with the shoulder and forward along the ramus of the jaw as far as the chin and within an inch of its median line. The anterior border is about two inches from the nose. The transverse measurement of the patch just below the ear is three and one-half inches, the vertical measurement three inches. On the neck an isthmus of nearly healthy skin, about one-half inch wide, separates the patch on the cheek from another similar patch over the right clavicle. This is elliptical in shape, one and one-half inches long by one inch wide, and is surrounded by some areola. The patch on the hand involves the base of the thumb on its dorsal aspect, and extends along the radial border of the hand and the forefinger, quite to the finger tip. The process everywhere seems to be a superficial one, and is characterized by a steadily advancing necrosis. In all other respects the baby has the appearance of a perfectly normal child, plump and well nourished. There were no lesions of the skin other than those mentioned, and none in the mouth.

With regard to the degree of extension of the disease process after the patient was admitted to the hospital, there was a little uncertainty. Apparently it did extend slightly in places, but very soon it reached its limit, and the day after admission the line of demarkation was pretty distinct, and in the next few days the slough began to separate, as represented in the accompanying portrait, made three days after admission. By the tenth day the slough had entirely separated, leaving healthy granulating surfaces, which within three weeks had quite healed. Toward the last the child's digestion suffered somewhat, and it looked a little wan. When seen a few days ago (May 27th) the disfigurement was less than would have been expected. The entire concha of the ear, with the exception of a short projecting ridge where, it was attached at its upper border, had completely disappeared. The meatus auditorius was patulous. The cicatrized patch was considerably sunken below the *niveau*, but the surface was pretty smooth and not much discolored. The child's general condition appeared bad, probably owing to the deranged digestion, which had not improved since leaving the hospital. The child was pale, had increased little in weight and had a cough.

The chief interest in the case concerns the etiology. Was it a pressure gangrene, a gangrene due to carbolic acid or lysol, or was it an effect produced by some interior condition concerning the nerves

or blood-vessels? Against pressure as the cause must be considered the peculiar locations of the lesions and the fact that a sufficient degree of pressure (no instruments having been used) to produce such effects in the child would not have been apt to leave the mother's parts intact. But apparently the mother had not suffered in any unusual way, and her recovery was rapid. A week after the birth she was up, attending to her household duties.

It was suggested that the gangrenous spots, in many of their features, resembled effects sometimes produced by applications of carbolic acid. The latter have been occasionally observed after strong applications to fingers, especially when made for felons, but have also been noted elsewhere, and sometimes even after comparatively mild solutions. But in this case it is pretty certain that no carbolic acid was used. A vial containing a little of the fluid that had been employed by the physician to make the lotion was brought to the hospital by the father, and the contents were evidently lysol and not carbolic acid. Though lysol is a cresol that has properties very similar to those of carbolic acid, it seems to be much less harmful to the tissues than carbolic acid, and, so far as I know, gangrene has never been attributed to it. But taking all the testimony into consideration, it seems clear that whatever effects the application could have had they were at the most only contributory, and do not explain the condition that existed at birth, a condition that was apparently already then of a gangrenous character. If, then, it was not due to pressure incident to delivery (though that is not yet clearly established, but only improbable), and not due to any application made, the inference would seem necessary that the cause was something inherent in the child itself, that the gangrene was spontaneous. But it must be confessed that even eliminating pressure, together with any other possible external injury, we are not much advanced toward a solution of the problem. The peculiar location of the lesions is hard to explain from any point of view. We might conceive of an affection allied to zoster gangrenosa occurring in utero were only the cheek and ear affected, but why should an affection of the third branch of the trigeminus, a cranial nerve, be associated with the same affection of the radial, a spinal nerve. If the cause was a neuropathic one, then it would seem necessary to refer it to some central brain lesion. Yet a central lesion capable of producing such severe peripheral effects would certainly be apt to manifest itself by some disturbance other than that in the skin. As already stated, the child's general condition seemed to be perfect.

OBSERVATIONS IN THE DIAGNOSIS AND TREATMENT
OF ACUTE GONORRHEA, WITH SPECIAL REFER-
ENCE TO THE VALUE OF PROTARGOL
AS A THERAPEUTIC AGENT.

BY ABRAHAM L. WOLBARST, M.D.,
New York.

WITH the view of determining the true therapeutic value of one of the newer remedies for the cure of gonorrhea, protargol, this preparation was employed in a series of cases numbering more than 1,100, in the genito-urinary department of the surgical clinic of Dr. Martin W. Ware, at the Good Samaritan Dispensary, New York.

The encouraging reports of many of those who had experimented with this silver preparation led to the belief that it possessed anti-gonorrheal properties, which more than justified its experimental employment, for there is as yet no completely satisfactory method of treating gonorrhea, though the need of it is still as urgent as it has ever been. It has long been known that silver nitrate is a most valuable agent in the treatment of gonorrhea in its various manifestations, but because of its equally well-known irritant properties its use in the treatment of gonorrheal urethritis has been limited to the chronic inflammations of the urethra. Protargol, however, was reported to contain about eight per cent. of silver, and was said to be non-irritant in the strength of the solutions recommended for use. With these recommendations in its favor, the drug was certainly entitled to a trial.

Method of Use.—In this series of cases it was at first used in a two per cent. solution, injected into the urethra by means of a blunt-pointed glass urethral syringe holding about three drams, but it was soon found that in this strength the solutions were often irritating to many of the patients, especially in the acute stage; the strength of the standard solution was then reduced to one per cent., thus removing its irritant effect, without causing any appreciable difference in its remedial power.

In the beginning of the series the patients were instructed to use the solution three times daily, at their homes; but it was quickly noticed that in many instances, after a few days' use of the remedy, when the pain and discharge had somewhat abated, or disappeared entirely, the patients, regarding themselves cured, ceased their visits to the dispensary, thus rendering it impossible to properly continue the investiga-

tion. As a result, the home injections were done away with, and the treatment was administered but once daily (except Sundays) at the dispensary. A careful record was kept of each patient's daily condition, especially the amount and the character of the discharge, the presence or absence of gonococci, the condition of the urine, and the complications, if any were present.

Diagnosis.—The first step was to determine the exact nature of the inflammation and the extent to which it had progressed. As to the former, the supreme test was the undisputable presence in the pus of the diplococcus of Neisser. In more than 100 cases the discharges were examined almost daily by the aid of the microscope and the Gram stain, with the result that gonococci were found in every case that presented the classic group of subjective and objective symptoms which are found with the typical gonorrhea. So strongly impressive was the co-relation between the presence of gonococci on the one hand, and the typical clinical picture presented by the patient on the other, that the inevitable conclusion arrived at was that whenever a patient presents himself with the familiar group of symptoms found in every case of acute gonorrhea, the gonococcus is positively the causative factor in the inflammation. While it was found that the gonococci could be present without causing that typical complex of symptoms, it was undisputably shown that whenever those symptoms were present the gonococci were surely to be found. This complex of symptoms, once seen, can never be mistaken for anything else. The meatus is red, edematous, puffy. It looks "angry." The discharge is profuse, purulent, greenish-white in color; and subjectively, there is pain or a burning sensation, more or less severe, which is usually aggravated during the act of micturition, and on erection of the penis.

The Thompson Two-Glass Test.—For purposes of clinical record, the cases were divided into two classes, (1) that in which the anterior portion of the urethra alone was involved, and (2) that in which the posterior urethra, as well as the anterior, was involved.

In the vast majority of instances there is little or no difficulty in determining which portion of the urethral canal has been attacked. The two-glass test is generally called upon to determine this question (excluding, of course, the subjective symptoms), and usually the testimony of the glasses is believed; too much so, at times, for the patient's good. In the acute stage of an attack, and when the disease is not of long duration there can be little if any doubt as to the correctness of the evidence presented by the two glasses. The short duration of the attack, the subjective symptoms, the classic appearance of the meatus, the purulent discharge, all tend to confirm the testimony of the glasses.

Under these circumstances, cloudy urine in the first glass, and clear urine in the second, give conclusive evidence that only the anterior urethra has become involved in the inflammation. If, however, under the same circumstances, the urine in both glasses appears cloudy, it does not necessarily follow, though the probability is great, that the posterior portion of the urethra, as well as the anterior portion, has been attacked. There is a possibility that the inflammatory discharge from the anterior urethra is so profuse that the pus is carried by the urine voided into the second glass, as well as into the first glass.

Similarly, it is important to determine what period of time has elapsed since the last previous act of micturition, for it is obvious that the evidence presented by the glasses will be modified by the length of time that has elapsed since the urethral canal was last washed out by the urinary stream passing through it. It has not been infrequent to find the urine in the first glass almost free of pus in a severe acute case, only to learn, on inquiry, that the patient had voided his urine but a few minutes previous to his visit.

The fallibility of this test, which is so often implicitly relied upon, is especially to be remembered in cases that have reached the sub-acute and chronic stage. In these conditions, the urine voided into the first glass contains only pus or only shreds, while the urine in the second glass is practically or absolutely clear, leading to the false diagnosis of chronic *anterior* urethritis. It is well to remember that there being but a small amount of pus or desquamated epithelium in the posterior urethra, in these conditions, this is deposited in the first glass, thereby leaving the urine in the second glass practically clear.

The Jadassohn Test.—This was performed whenever there was any doubt as to whether the pus or shreds in the urine came from the anterior or posterior urethra. The patient is told to call with a full bladder. The anterior canal is thoroughly irrigated with warm water until the drippings come away clear; the patient then passes his urine into a clean glass. If this urine be perfectly clear, the anterior urethra is alone the seat of the disease; if this urine contain shreds or pus, the posterior urethra is involved.

Treatment.—This was based on the location of the disease, its duration, and its complications. In the simple anterior cases, without posterior involvement or complications, daily injections of one per cent. solution of protargol were given with a small glass syringe. The fluid was held in the urethra for five to ten minutes by tightly compressing the lips of the meatus from side to side with the fingers. These injections were used from the very beginning of the attack, except in a very few cases where the edema and swelling were so great

as to make the syringe intolerable. Ordinarily there was little or no pain when the solution was used in this way, even in the acute stages. Few patients, more sensitive than the rest, felt some irritation, but it was not of a serious character. About four per cent. of the patients became weak and faint after the first injection, but this was not due to the nature of the solution used, as the same nervous phenomenon has been observed when other preparations were employed and when other methods and procedures were resorted to, as, for instance, the irrigation by the Janet method. This injection was administered daily (except Sunday) until the discharge had disappeared, and the urine contained only shreds (about three or four weeks), after which an astringent solution, usually zinc sulphate, in one-half per cent. strength, was combined with and later substituted for it.

The results were, on the whole, exceedingly satisfactory, and in some cases highly gratifying. The pain and the discharge were quickly diminished in the great majority of the cases, and the patients were rendered comfortable throughout the entire course of the disease.

As soon as the posterior urethra was attacked, the injections of protargol were immediately suspended, and the entire urethral canal was irrigated daily by the Janet method, with potassium permanganate, or normal sodium chloride solution, or weak solutions of silver nitrate. Internally, various of the so-called urinary antiseptics were employed, rather empirically than otherwise. Salol, methylene blue, urotropin, boric acid, and the oil of gaultheria were used, without any appreciable effect on the course of the disease. The familiar rhubarb and soda mixture was satisfactorily employed in maintaining free movement of the bowels, and it goes without saying that alcoholic drinks, as well as spicy and fatty foods, were prohibited. Excessive exercise and sexual excitement were also interdicted.

Results.—For the purposes of this article, 46 cases have been selected and tabulated below. These cases have been selected (1) because they showed beyond question the presence of gonococci, (2) they presented the typical clinical picture of the disease, (3) they were under careful observation from the beginning to the end of the attack, thus combining all the requisites for their careful study. Moreover (4), these cases being virgin attacks, they presented no complications or remnants of former attacks. Conclusions drawn from them may therefore be regarded as trustworthy and devoid of serious error or suspicion.

Of the remaining hundreds of cases treated in this series, many of the patients continued their visits only while the discharge lasted, and then discontinued treatment entirely or for a brief period, after

which they returned for another short period of treatment; while others remained under observation for several brief periods, only long enough to note the effect of early and persistent treatment on the disease.

It may be added, in passing, that in every one of the cases in which the posterior urethra became involved, the meatus was of smaller caliber than the normal, varying from the pin-point meatus to one not admitting a sound of greater caliber than 22 French. This may have been a coincidence, but it has been an oft repeated observation, both in private practice as well as in dispensary work, that the contracted meatus offers a serious obstacle to the proper healing of the inflammatory process, and the probabilities are great that a case in which the meatus is less than the normal caliber will suffer posterior involvement and run a severe course throughout. It is worth considering whether early meatotomy in these cases would be wise, though this procedure has been recommended in recent publications.

Of the 46 cases recorded, the anterior urethra remained alone involved in 38 (83 per cent.), and the posterior became involved later in 8 (17 per cent.). In those cases in which the anterior urethra alone remained the seat of the inflammation, treatment was begun in three on the first day, in six on the second day, in six on the third, in eight on the fourth, in one on the fifth, in two on the seventh, in three on the eighth, in one on the ninth, in three on the tenth, in four on the fourteenth, and in one on the twenty-eighth day.

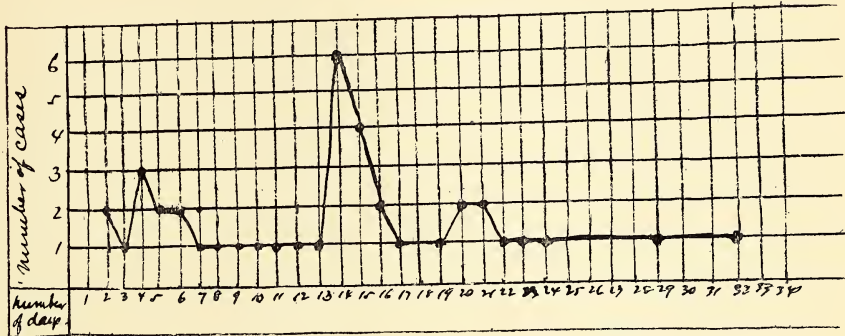
Of the eight cases in which the posterior became involved, treatment was begun in one on the first day, in two on the second, in one on the third, in one on the fourth, in one on the fifth, and in two on the sixth; and in three of the latter cases, the extension of the inflammation into the posterior urethra was directly traced to an alcoholic debauch. These figures, therefore, show quite conclusively that by an early use of the protargol solution, combined with a consistent co-operation on the part of the patient, the disease may be confined to the anterior urethra, thereby avoiding posterior involvement with its attendant complications.

Duration of the Discharge.—This was carefully noted in every case. In the anterior cases the discharge was present from two to seven days in eleven cases, from eight to fourteen days in eleven cases, from fifteen to twenty-one days in twelve cases, and from twenty-two to thirty-two days in four cases. (See chart No. 1.)

It will be seen that the discharge varied from two to thirty-two days, with a total average duration of thirteen days. The purulent discharge which is so typical of acute gonorrhea was reduced in almost every case to a slight watery discharge in from seven to ten days; the

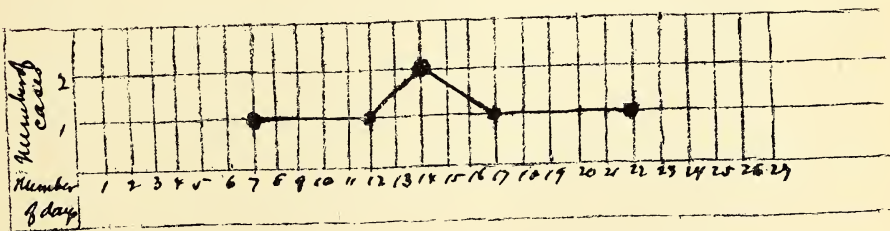
remainder of the period in which a discharge could be found was marked by the presence of a slight muco-purulent or watery discharge, which was milked or squeezed from the urethra. From the point of view of diminishing and controlling the discharge, the preparation proved to be of positive value.

Chart 1.



In the six cases in which the posterior urethra became involved and in which a record was kept, the discharge lasted seven days in one case, twelve days in one case, fourteen days in two cases, seventeen days in one case, and twenty-two days in one case, an average duration of little more than fourteen days. (See chart No. 2.) It may be repeated here

Chart 2.



that in the posterior cases the entire urethral tract was irrigated daily with potassium permanganate, or normal salt solution, by the Janet method, as soon as it was seen that the posterior urethra had become attacked.

The Gonococci.—Examinations were made from time to time to determine how long the gonococci were present in the discharges. In four of the anterior cases no record was kept, and in one case there was a recurrence of the discharge after an alcoholic debauch, and the gono-

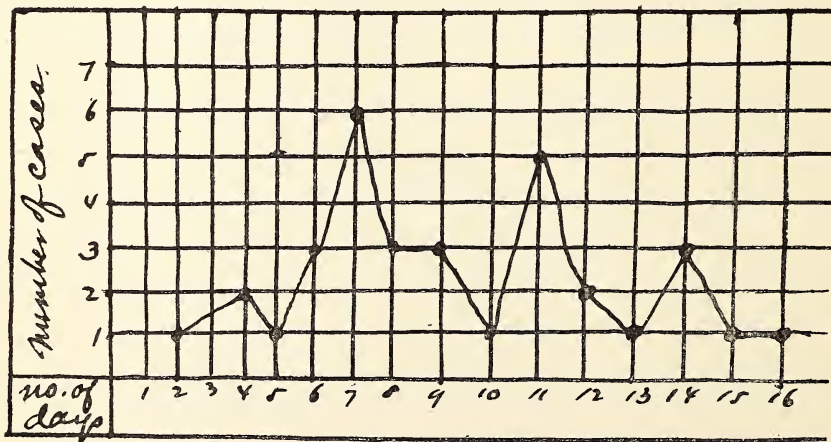
cocci reappeared, finally disappearing on the thirty-second day of treatment. The following table (No. 1) shows the effect of the treatment on the gonococci:

TABLE NO. 1.—SHOWING NUMBER OF DAYS DURING WHICH GONOCOCCI WERE PRESENT.

No. of Cases.	No. of Days During Which Gonococci were Present.
1.....	2
2.....	4
1.....	5
3.....	6
6.....	7
3.....	8
3.....	9
1.....	10
5.....	11
2.....	12
1.....	13
3.....	14
1.....	15
1.....	16

Chart No. 3 also illustrates the same point. It will be seen that the shortest time in which the gonococci disappeared was two days, and the longest time was sixteen days, a very creditable record.

Chart 3.



Of the eight cases in which the posterior urethra became involved, a record of the gonococci was kept in five cases. In one they were present six days, in two nine days, in one eleven days, and in one fourteen days. In the anterior cases the average period in which the gono-

cocci were found was nine and one-half days, and in the posterior cases nine and four-fifth days.

When it is remembered that very few, if any, patients attended regularly for treatment, it may be safely said that the results would

SUMMARY (a) SHOWING DATA OF 38 ANTERIOR CASES.

TABLE III.

Case No.	Duration before Treatment.	Gonococci found?	Duration of Gonococci.	Duration of Discharge.	No. of visits to Dispens'y.	Duration of Treatment.	T ^l Durat'n of the Attack.	Last Visit.	Complications.
98	7 days.	Yes	11 days.	14 days.	21	34 days.	41 days.	Dec. 31, '98.	None.
150	"	"	No record.	21 "	7	36 "	37 "	Dec. 5, '98.	"
154	28 "	"	6 days.	13 "	17	27 "	55 "	Feb. 27, '99.	"
162	3 "	"	9 "	15 "	16	54 "	57 "	Feb. 3, '99.	"
169	7 "	"	11 "	17 "	32	83 "	90 "	Feb. 9, '99.	"
189	5 "	"	7 "	20 "	23	32 "	37 "	Jan. 14, '99.	"
229	8 "	"	8 "	15 "	23	39 "	47 "	Mar. 3, '99.	"
256	14 "	"	8 "	4 "	10	25 "	39 "	Mar. 21, '99.	"
302	2 "	"	4 "	4 "	17	31 "	33 "	April 23, '99.	"
345	4 "	"	6 "	12 "	20	26 "	30 "	May 22, '99.	"
382	2 "	"	4 "	4 "	13	11 "	13 "	May 30, '99.	"
534	4 "	"	14 "	10 "	23	49 "	53 "	Aug. 28, '99.	"
559	2 "	"	{ Retur'ed after disapp'e }	32 "	27	66 "	68 "	Oct. 3, '99.	"
630	14 "	"	7 days.	22 "	22	49 "	63 "	Nov. 8, '99.	"
632	1 "	"	16 "	16 "	26	64 "	65 "	Nov. 17, '99.	"
646	4 "	"	14 "	16 "	22	45 "	49 "	Nov. 8, '99.	"
670	3 "	"	5 "	7 "	13	10 "	13 "	Oct. 21, '99.	"
673	10 "	"	7 "	2 "	31	40 "	50 "	Dec. 2, '99.	"
674	8 "	"	7 "	6 "	17	22 "	30 "	Nov. 7, '99.	"
704	10 "	"	9 "	15 "	16	23 "	33 "	Nov. 21, '99.	"
739	2 "	"	No record.	29 "	20	47 "	49 "	Jan. 9, 1900.	"
740	8 "	"	13 days.	14 "	17	21 "	29 "	Dec. 8, '99.	"
787	14 "	"	12 "	15 "	15	20 "	34 "	Jan. 24, '00.	"
825	10 "	"	17 "	9 "	19	21 "	31 "	Feb. 19, '00.	"
829	2 "	"	12 "	20 "	28	49 "	51 "	Mar. 12, '00.	"
840	4 "	"	2 "	2 "	22	41 "	45 "	Mar. 12, '00.	"
911	3 "	"	11 "	14 "	21	34 "	37 "	April 9, '00.	"
913	9 "	"	9 "	19 "	16	23 "	32 "	April 11, '00.	"
923	4 "	"	No record.	24 "	19	52 "	56 "	May 5, '00.	"
929	1 "	"	11 days.	5 "	26	47 "	48 "	May 12, '00.	"
948	3 "	"	7 "	8 "	15	33 "	36 "	May 10, '00.	"
950	4 "	"	11 "	14 "	13	15 "	19 "	April 30, '00.	"
975	14 "	"	10 "	6 "	20	27 "	41 "	June 13, '00.	"
987	4 "	"	15 "	2 "	21	54 "	58 "	June 25, '00.	"
1005	3 "	"	8 "	15 "	23	42 "	45 "	Aug. 23, '00.	"
1030	2 "	"	6 "	1 "	13	13 "	15 "	June 19, '00.	"
1033	3 "	"	14 "	14 "	13	26 "	29 "	June 30, '00.	"
1073	4 "	"	No record.	5 "	10	16 "	20 "	July 9, '00.	"

have been far more satisfactory from every point of view if it were possible to have used the remedy three times daily, seven times per week, instead of but once daily four or five times per week. Table No. 3, appended below, shows that the total number of visits made by the patients varied from seven to thirty-two.

Duration of Treatment.—The most favorable case terminated in a complete cure ten days after treatment was begun, and the least favorable case—that is, the one that lasted longest in the series—had a duration of eighty-three days. (This case was complicated by an attack

SUMMARY (b) SHOWING DATA OF EIGHT POSTERIOR CASES.

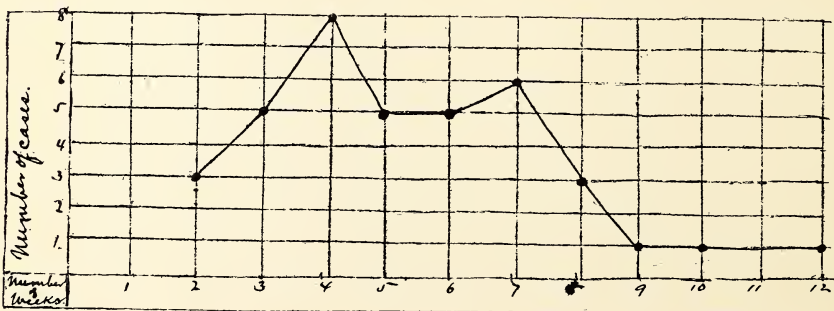
TABLE II.

Case No.	Duration before Treatment.	Gonococci found?	Duration of Gonococci.	Duration of Discharge.	No. of visits to Dispens'y.	Duration of Treatment.	T'l Durat'n of the Attack.	Last Visit.	Complications.
121	6 days.	Yes	No record.	14 days.	32	82 da's.	88 da's.	Jan. 3, '99.	Epididymitis
175	6 "	"	"	14 "	38	81 "	87 "	Feb. 27, '99.	
207	3 "	"	6 days.	14 "	20	35 "	38 "	Mar. 3, '99.	
219	2 "	"	9 "	17 "	20	18 "	20 "	Jan. 3, '99.	
243	1 "	"	Returned after debauch.	Returned after debauch.	31	106 "	107 "	May 3, '99.	Rheumatism
601	2 "	"		12 days.	28	54 "	56 "	Oct. 10, '99.	
805	5 "	"	9 "	22 "	27	37 "	42 "	Jan. 17, '99.	Epididymitis
810	4 "	"	11 "	17 "	26	34 "	38 "	Feb. 15, '00.	

of rheumatism after the disease had apparently run its course.) (See table No. 2.)

The average duration of these thirty-eight cases was thirty-five days, or exactly five weeks.

Chart 4.

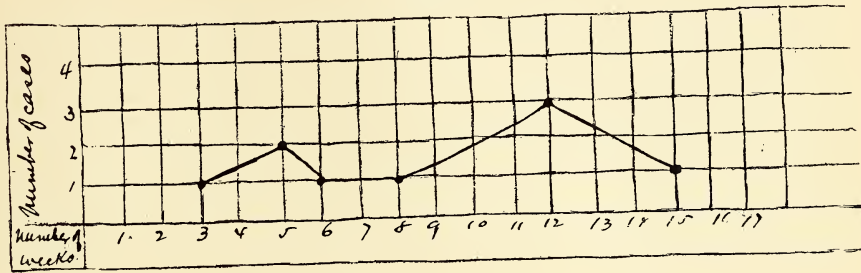


Of the posterior cases, one case was treated less than three weeks, two were treated from four to five weeks, one from five to six weeks, one from seven to eight weeks, two from eleven to twelve weeks, and one was treated 15 weeks.

The average duration of these posterior cases was therefore fifty-six days, or eight weeks. (See chart No. 5.)

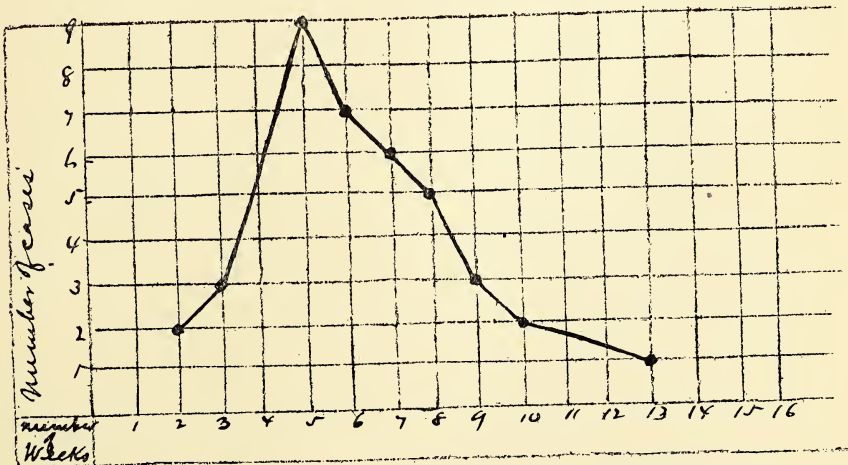
When to these figures are added the period which elapsed before treatment was begun, it will be found that of the thirty-eight anterior

Chart 5.



cases, two lasted less than two weeks, three lasted from two to three weeks, nine lasted from four to five weeks, seven lasted from five to six weeks, six lasted from six to seven weeks, five lasted from seven to eight weeks, three lasted from eight to nine weeks, two lasted from

Chart 6.



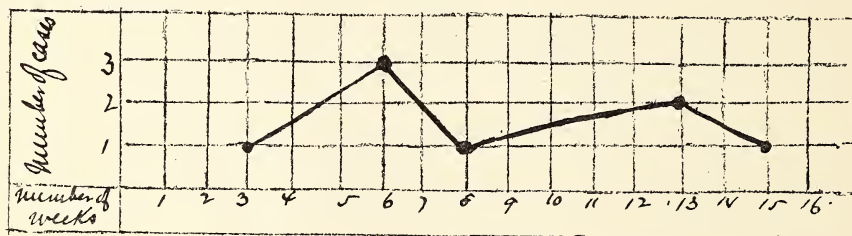
nine to ten weeks, and one lasted thirteen weeks, a total average duration of forty-two days, or six weeks, the "classical period of gonorrhea." (See chart No. 6.)

Of the eight posterior cases, one lasted less than three weeks, three lasted from five to six weeks, one lasted from seven to eight weeks, two

lasted from twelve to thirteen weeks, and one lasted fifteen weeks, a total average duration of fifty-nine days, or 8 3-7 weeks. (See chart No. 7.)

Cure.—The question as to whether the cases considered and discharged as cured were actually cured, brings us to the oft-mooted question, whether gonorrhea can be cured by any method of treatment, and how is it possible to determine whether or not this result has been attained. It cannot be denied that in spite of every test known, the disease may remain latent for years, without revealing its presence either to the patient or to the physician. The urine may be absolutely clear, there may be no subjective symptoms of any kind, and yet, for some unknown reason, the disease is apt to reappear at any time under certain favorable conditions. It is therefore impossible to pronounce a patient cured and at the same time guarantee that there will not be

Chart 7.



a recurrence at some future time, without a re-infection. All we can do to determine the question of cure is to carefully examine the urine for the minutest shreds, when the urine has been retained for many hours (as from one evening to the next morning), and in addition employ the other well-known tests that are known to aggravate an existing gonorrhea, and to bring into view the hidden gonococci, if any be present. The ordinary beer-test suffices for the former, and the production of a discharge by the injection of a strong solution of silver nitrate, followed by a careful microscopical examination of the discharge for the presence of gonococci, will do for the latter; and if these tests are properly performed, with negative results, we may conscientiously, as far as our present knowledge permits, pronounce the patient cured and give him reasonable assurance that while a recurrence without a new infection is possible, it is not probable.

In the cases of this series, a cure was pronounced only when the urine remained absolutely clear for some time after treatment had been stopped, and when it remained clear after the patient drank beer or

other alcoholic drinks; in some doubtful cases, however, the test discharge was also brought about, and a careful examination of the pus was made for gonococci, with negative results in every case. It may, therefore, be safely asserted that these cases were cured, and that as far as we know the cure was as permanent as any cases cured by other methods of treatment. It should also be added that a number of the patients have reported since they were discharged cured, and the urine has been found clear; there has been no "morning-drop," and in spite of alcoholic and sexual excesses there has been no sign of recurrence.

Complications.—In the thirty-eight cases in which the anterior urethra alone was affected, there were no complications of any kind; in the eight cases in which the posterior urethra became involved, epididymitis occurred in two, and rheumatism, located in the elbow and shoulder-joint, in one. Inflammation of the prostate, in a mild form, occurred in almost every one of the posterior cases; and the writer is strongly of the opinion that few if any prostates and vesicles escape involvement, to a greater or less degree, once the posterior urethra has become inflamed. In many of these cases the prostatic inflammation offers no subjective symptoms, and its existence is very apt to be overlooked. It is therefore advisable, and even imperative, to examine the prostate and the vesicles in every case of posterior urethritis, whether or not the patient calls attention to these organs, and if signs of inflammation be present, proper measures must be resorted to.

In closing, my thanks are herewith tendered to Dr. Ware for the many opportunities he has afforded me of pursuing the subject under consideration, in the conduct of the genito-urinary department of his clinic, and for his excellent suggestions in studying these cases and recording them.

Conclusions.—1. Early and active treatment is indicated in every case of acute urethritis, especially before the posterior urethra has become involved in the inflammatory process. The earlier the treatment is begun, the greater is the probability that the inflammation will be confined to the anterior urethra.

2. A meatus of narrow caliber strongly points to the probability of posterior involvement and a severe course of the disease. Early meatotomy may be advisable.

3. The Thompson two-glass test is liable to serious error. Its evidence should be corroborated before it is conclusively accepted.

4. The typical clinical picture presented by the patient in the acute stage is thoroughly diagnostic. The presence of the gonococci in the discharges is corroborative.

5. For posterior urethritis the irrigation treatment is both rational and effective. With proper technic and gentleness, the proceeding is

attended with a minimum of pain and danger. It is not essential that potassium permanganate, the most popular medium, be employed for this purpose. Normal salt solution, weak solutions of silver nitrate, and of copper sulphate, have given equally good results, especially when used alternately. The heat of the fluid and the thorough mechanical flushing of the urethral canal are probably the most effective forces in bringing about the favorable results of this method of treatment.

6. In anterior urethritis protargol in one-half to one per cent. solution constitutes a most valuable remedy.

7. It is easily borne, not irritant nor painful.

8. It may be safely used from the very beginning of the attack, except in those few cases where the syringe itself is not tolerated.

9. The profuse purulent discharge usually disappears within seven to ten days, after which a muco-purulent or watery discharge may be milked from the urethra, and which totally disappears after two to four weeks, under an astringent injection.

10. The gonococci disappear after two to sixteen days, but are apt to reappear (as does the discharge) if the protargol solution is stopped before the end of the third week.

11. The posterior urethra is not likely to be attacked if the treatment is begun early enough and properly carried out.

12. The average duration of the anterior cases, including the obstinate cases, is six weeks, though this period is materially shortened in private practise where the solution is employed three times daily.

13. There is little or no pain or discomfort throughout the entire course of the disease.

14. The advantages of this method of treatment over the older methods are:

- a. Absence of pain and discomfort.
- b. Brief duration of the profuse discharge.
- c. Comparatively shorter duration of the disease.
- d. Diminished danger of complications.
- e. Early disappearance of the gonococci.

15. The disadvantages are:

a. Early cessation of the discharge induces patients to suspend treatment before they are entirely cured, thus bringing about an early recurrence.

b. Absence of pain and discomfort minimizes the importance of the disease in the eyes of the patient.

c. If the solution be too strong, there is a possibility of causing posterior involvement, with liability to the usual complications. This is the only danger in the use of the remedy.

187 Henry street, New York.

THE ACTION OF CONDENSED LIGHT UPON THE SKIN
AS A THERAPEUTIC AGENT.BY A. RAVOGLI, M.D.,
Cincinnati.

I HAVE recently received a photo-therapeutic apparatus made in accordance with Finsen's principles as modified by Prof. Lortet and Dr. Geno of Lyons, France. It consists of an arc light as the source of light, in the same way as in Finsen's apparatus, and the rays pass through a small condenser. In this way we obtain a diminution of the heat rays, which are absorbed by nearly any medium in the condenser. With the strongest condensation we obtain a disc from the size of a fifty-cent piece to that of a dime, where we have the activity of light, which is directly applied on the different parts of the body for ten, fifteen or twenty minutes.

In this apparatus the condenser has been largely done away with, and the light has been placed very near the lenses so as to prevent the dispersion of the rays. Two carbons receive the continuous current and form a round ball of light exceedingly powerful, which through the lenses is projected on the skin. A small reflector on the back of the light prevents any dispersion backwards.

The lenses are of quartz, and water circulates in them and in the shield which contains the light, so that the apparatus is perfectly cool. Through this device the heat rays are prevented from going through, without any obstacle to the passage of the chemical rays.

The lenses are changed according to the area of the affected skin to be exposed. The photochemical intensity is so strong that a ten, fifteen or twenty minutes' exposure is sufficient to produce the desired effect.

Finsen¹ studied the physiological effects of the light, and he found that it is able to produce inflammation of different degrees on the skin, and that it has a destructive effect on different bacteria. The bactericidal action of the light had already been demonstrated by other observers, especially the energetic power of the blue and violet rays. Furthermore, the power of the light to penetrate through the skin had been noted. These two points have prompted Finsen to

¹Niels R. Finsen. *Traitement du lupus vulgaire par les rayons concentres.* Comptes rendus du Congrès de Dermatologie et Syphilographie par G. Tiebierge Paris, 1901.

utilize the light as a curative means for some affections of the skin of bacterial origin. In 1895 Finsen began his practical experiments, commencing with a case of lupus vulgaris.

It is necessary to state that in these applications there is no question concerning the thermic effect of the light. The method is based exclusively on the application of the chemical rays, blue, violet and ultraviolet. In order to obtain this result we use a light which has abundant chemical rays, and the light is cooled so as to prevent the passing of the thermic rays. The blood in the tissues prevents the action of the light from going through, and for this reason the condenser is applied directly on the skin, in order to produce with its pressure a temporary ischemia in the place which we are treating. Finsen with his first apparatus kept up the application for one hour and fifteen minutes, repeating the application once or twice a day. With the apparatus which I am using an exposure of ten to twenty minutes is sufficient to obtain the desired effect.

The treatment does not produce any pain, except when on ulcerated patches the pressure causes slight discomfort.

The physiological action of the treatment consists of a local erythema sometimes followed by the formation of vesicles, and after six or eight days it ends in an epidermic exfoliation. This inflammation causes a successive and gradual regression of the disease, which is revealed by the diminished congestion and by the reabsorption of the infiltration. Indeed, hypertrophic lupous nodules become flat, small, and in the middle show a kind of necrotic appearance and then disappear; small nodules in the same way after two or three applications are scarcely recognizable. The effect of this treatment on ulcerated places is admirable. After an exposure of fifteen minutes the troublesome subjective symptoms of the ulcer are relieved, the patient feels no more itching or painful sensation, this being replaced by a feeling of warmth. The surface appears shiny, as if it had been painted with gelatin. Ulcerous excavations, the yellowish necrotic appearance of tubercular ulcers, disappear, and a healthy layer of cicatrix extends from the edges, which gradually heals up the ulcerated surface.

When the surface to be treated is rather extensive we use the large lens; when the applications are restricted to single nodules we use small lenses. It is necessary to treat the spots several times in order to insure success. When vesication occurs, or when the surface is ulcerated, I have it covered with a boracic acid or oxid of zinc salve.

Finsen establishes the time in which to accomplish the cure of

lupus as from four and one-half to six months. It is necessary to have the patient under observation for a long period, and in case of relapse to apply another treatment.

Finsen's conclusions are as follows: That the effects are remarkably constant; also that in cases of an intense character and widely extended, where an absolute cure is doubtful, considerable improvement has been obtained and the progress of the disease has been checked; and that only from two to three per cent. of the cases are entirely refractory.

The cosmetic results are the most satisfactory because the treatment is essentially conservative. The apparently healthy parts surrounding diseased spots can be included in the treatment without fear of any scar.

There are no unfavorable secondary effects. The process does not cause any pain whatever. In lesions of great extent and deep, Finsen advises that the treatment begin with the application of a salve containing ichthyol, salicylic acid and pyrogallol according to Besnier, and when the old tubercles are well necrotized by the action of the salve, the light is applied, diminishing in this way the length of the treatment.

Finsen has already reported 553 cases of lupus vulgaris treated with his method with satisfactory results. The application of the light, however, has not been limited to lupus alone, but has been used in many other dermatoses.

In the few weeks that I have had the apparatus I have applied it in several cases and in all with gratifying results. I have obtained a perfect recovery in a case of a tubercular ulcer on the skin of the dorsal region. The case, a lady, was kindly referred to me by Dr. Agin of this city. It was an ulcerated place the size of the palm of the hand, seated on the dorsal region above the angle of the left scapula. It consisted of small ulcerated nodules somewhat elevated above the level of the skin, coalescing together. The centers of the nodules were mostly ulcerated, showing a yellowish lardaceous bottom. The lady is sixty years old, of good physique, has always had good health, widow, has two sons and two daughters, all married and in splendid health. Some three years ago she was annoyed by an itching sensation on the shoulder, which she scratched with her finger nails, and finding some little elevations sometimes she made it bleed. In the course of time an ulceration formed, for which she sought medical attendance.

Dr. Agin referred the lady to me a few weeks before leaving for Europe. My diagnosis was that of tuberculosis of the skin (lupoid),

for which I prescribed a salve containing pyrogallic acid, resorcin and salicylic acid, from which she obtained some benefit. When I returned from Europe, the lady, although somewhat improved, had still some ulcerations and small tubercular nodules, and in the left segment some papillary vegetations were growing, which caused her great distress on account of an itching and burning sensation. As soon as my machine was in order I began to expose the sore to the condensed light for fifteen minutes, twice a week. The exposure to the light stopped the itching and burning sensation. The whole surface became erythematous and red, the ulcers appeared as if painted with gelatine, and in a short time they healed up; the small tubercles have disappeared, and she has perfectly recovered. I am sorry I could not persuade her to be presented to the Academy.

Through the kindness of these gentlemen I have an opportunity to show to you one case of lupus vulgaris of the right auricle, of fifteen years' standing. When the case came under my treatment the auricle had been lost, but the tubercular process had spread in the cartilage of the concha and into the meatus, which was deeply ulcerated.

Another lupous patch you can see underneath the right lower eyelid, semi-circular in shape, consisting of solid and large red nodules, surrounding a good, regular cicatrix. Every treatment for lupus had been applied by the different physicians who had had charge of the case, but relapses, had occurred. After six applications of the light on the ear, the surface has entirely changed, so that it is smooth and clean, showing no more tendency to ulceration. The meatus has entirely cicatrized, and the whole edge of the concha, which was studded with lupous ulcers, has entirely cicatrized. Of the lupous patch on the face you can see that not much remains. Many of the nodules have disappeared, leaving a regular superficial scar, while others you can see red and shrunken, with a necrotic appearance in the middle, in the way of reabsorption, the result of the use of the condensed light.

The other gentleman has an old case of lupus erythematosus discoides, of over nine years' standing. A deep, red-brown color, on a heavy, thick infiltration covered the whole nose and both cheeks to the angle of the jaw, forming the figure of a butterfly. The edges were somewhat elevated with thick greasy scales, adherent to the sebaceous glands, and between them small depressions showing points of atrophy and sclerosis of the skin. The patient is a man of good physique and well nourished, who has always enjoyed good health; he has a healthy family, and works constantly as a mechanic. He has been under treatment with able and estimable dermatologists in Boston and New York.

The results, however, have not been satisfactory, as is sometimes true in cases of this disease.

When he came under treatment, several months ago, I used scarifications, salves, etc., and the results were very questionable, but since I have used the concentrated light on him I have the pleasure of showing him to you, that you may judge for yourself as to the efficacy of this application. There remains only a brownish-red color, which is the result of the congestion continued in that region for so many years. The skin is soft and elastic, and nothing remains of the thickness and hardness of the old infiltration. The thick scales have entirely disappeared, and the whole surface is smooth, like the rest of the normal skin. You can see round, whitish patches, which indicate the size of the lens where the light has been applied. In such an extensive surface it has taken a long time to go over the whole affected region, making one or two applications daily. The day after the application of the light the surface is affected with an inflammatory reaction, shown by redness and an edematous swelling. This reaction, in four or five days, disappears and leaves the surface smooth and thin. I have applied no more salve or local applications since the introduction of the present treatment.

I am applying this same process in other cases of a tubercular nature. A girl sixteen years old came to my office with an enlarged submaxillary gland on the right side of the neck. My opinion was that it was of a tubercular nature. Salves and tincture of iodine had produced no benefit. I applied the light directly on the gland for twenty minutes, and at the end of the application the gland could scarcely be felt. The patient did not return for further treatment, and I can say that she did not need my services any longer.

Cases of acne rosacea and alopecia areata are still under treatment, with promising results.

I can recommend to you the phototherapeutic treatment as one of the most beneficial that I have applied so far in the above-mentioned affections.

A CONTRIBUTION TO THE THERAPEUTICS OF SKIN DISEASES.

BY THURSTON GILMAN LUSK, M.D.,

Adjunct Professor of Diseases of the Skin, Post-Graduate Medical School; Instructor in Diseases of the Skin, Cornell University Medical College;
Dermatologist to Bellevue Hospital, O. D. P.; Formerly House
Physician of the Skin and Cancer Hospital.

FOR more than two years I have used a combination of acetanilid, zinc oxid and iodized starch, in the form of a paint, in the treatment of a variety of skin diseases, with most gratifying results.

The following proportions were found most generally useful:

R	Acetanilid	5i
	Zinc oxid	5iij
	Iodized starch, 5 per cent.	5iv.

M.

It is very necessary that the iodized starch be properly and freshly made and that the acetanilid be finely pulverized.

To a quantity of the above combination sufficient water is added to make a paint or paste and should be applied with a stiff brush (an ordinary round paint brush answers well). Liquid albolene, benzoinol or sweet oil can be used instead of water when the paint is intended for dry surfaces or ulcers. When the paint is almost dry a gauze bandage may be applied to prevent its being rubbed off by the clothing, and in case of varicose ulcers or eczema of leg, a snug muslin bandage should cover a single layer of gauze bandage.

When wet the paint is of a slate color, and when dry a light drab; but when it comes in contact with pus it turns white, showing that iodine has been liberated, giving "nascent" iodine.

In this combination we have antiseptic, astringent, soothing and protective properties; it therefore has an extremely wide application and its healing powers are remarkable. I first used this paint in varicose eczemas and ulcers, and the quick and satisfactory results induced me to try it in almost all of the commoner skin inflammations.

It has given excellent results in all superficial skin lesions, especially those due to septic or purely external causes, such as dermatitis from all causes, including superficial burns; impetigo and ecthyma,

after first removing crusts; herpes zoster, simplex and progenitalis; tinea versicolor, after scrubbing; chancroids, after thorough cleansing (especially quick result); subacute and varicose eczema; acne of chest, shoulders and back; folliculitis and perifolliculitis; and by using oil instead of water it can be used with equally good effect in ulcers of all kinds, parasitic eczema and in certain stages of chronic eczema. If in the latter itching is marked, two or three per cent. carbolic can be added to the paint.

If all the paint is not used at one treatment it can be set aside and water or oil added when used again.

It is not claimed that this paint is a specific for any of the above-mentioned diseases, but in the greater number it gives better results than that of any remedy or combination previously used by me, and the wide application together with the easy application adds to its value.

121 East Fortieth Street, New York.

Book Reviews.

Pellagra.—By VICTOR BABES and V. SION. XXIV. Volume; II. Part; III. Fascicle in Nothnagel's Compendium of Special Pathology and Therapy; with nine photographs and two plates. 87 pages. Vienna, 1901. Alfred Holder.

In the countries of Southern Europe, South America and Africa, pellagra is a well-known disease. The writers consider the disease not only from its medical, but also from its social and economic standpoint. Inhabitants of countries where maize is used as the main article of food are mostly the victims of pellagra; and the cause does not lie maize in itself, but in the prolonged use of a spoiled grain which did not have time to ripen and dry well. The writers do not accept the opinion of some observers that maize is not a proper article of food; quite the contrary; they consider that ripe and well-dried maize answers all requirements for a popular food. Various kinds of bacteria have their abode in spoiled maize, and they and their toxins are the direct cause of pellagra. This was proven by injecting the substance extracted from spoiled maize into animals, in which later pellagra developed. They also proved that the blood of pellagrous patients contains a substance which counteracts the action of the toxins of spoiled maize.

The pathological anatomy of the disease is fully considered; the changes in the skin, nervous system, internal organs are given in a minutely detailed manner. After discussing the symptomatology, diagnosis and complications of the disease the writers direct their attention to the treatment. Here prophylaxis is the prime necessity. They lay stress on the removal of the miserable social conditions under which the victims of the disease labor, and urge the State to take a firm hand in removing these social conditions, and demand that only maize of good quality be brought into the market. They favor the establishment of special retreats for sufferers with pellagra. Medicinal remedies are of small value; neither arsenic

nor strychnin have any effect. The writers are full of hope that the serum obtained from horses into which the extract of spoiled maize was injected will have a beneficial specific effect upon pellagrous patients, and as soon as the writers are in a position to collect enough of that serum they will begin to treat patients with it.

LAPOWSKI.

Lepra.—By VICTOR BABES. XXIV. Volume; II. Part; II. Fascicle in Nothnagel's Treatise of Special Pathology and Therapy; with sixty-six photographs and ten plates. 336 pages. Vienna, 1901. Alfred Holder.

For the last ten years an alarm has been distinctly sounded in many European countries in regard to the question of leprosy. Here and there many patients were unexpectedly discovered in localities where leprosy was not supposed to be prevalent, and the medical fraternity gave serious attention to the question, convoking an International Congress of Leprosy in Berlin, where leprosy was considered from the standpoint of advanced medicine.

The contributions of Dr. Babes to this congress were of special and valuable interest and are here presented in a volume of 336 pages, with a full and detailed literature of the subject. Outside of the chapter dealing with the historical aspect of the question, which by the nature of the subject must be a compilation, all the other parts are the outcome of the author's personal experience. The native land of the writer is one of the places where leprosy is prevalent; and he has made a full, elaborate and highly scientific use of the material. In many chapters, especially where the question of the lepra bacillus, pathological anatomy, histology and etiology are concerned a master hand is visible in every line, grasping a unique range of material with a critical view, fully alive to the shortcomings of our present knowledge. He is a firm believer of the contagiousness of leprosy, and substantiates his view with many lucid and telling facts and considers external unfavorable conditions, climate and diet, only as contributing but not disease-producing agents.

Neither does he consider leprosy a hereditary disease. When the children are removed from their surroundings they do not, in the majority of cases, become lepers, although born of leprous parents. The bacillus of lepra up to the present time has not been successfully cultivated. It is allied to the tubercle bacillus. The general and local reaction of leprous patients when tuberculin is injected into them seems to confirm this view. The entrance, location and exit of the bacillus are minutely and critically considered. In the chapter on pathological anatomy many new and interesting points are presented, every organ is considered in detail, and microscopical sections elucidate the text. The symptomatology is written in an admirable manner; a close, life-time study is seen in the minute attention to the details of the symptoms of the disease. In this chapter and in the chapter on diagnosis a master mind, acquainted with the subject in question, is seen in every statement.

Firmly believing that lepra is contagious, the main prophylactic remedy, according to the author, is seclusion and an governmental supervision. He advocates the establishment of lepra zones and colonies for agricultural regions where leprosy is prevalent.

Surgical and medicinal treatment, the use of tuberculin and the serum treatment are critically considered.

An appendix giving the full literature of the subject closes this most elaborate, lucid and scientifically up-to-date treatise on leprosy.

LAPOWSKI.

Society Transactions.

NEW YORK DERMATOLOGICAL SOCIETY.

296TH REGULAR MEETING, APRIL 23, 1901.

HENRY H. WHITEHOUSE, M.D., *President*.

A Case of Lichen Planus of the Palms.—Presented by DR. E. B. BRONSON.

DRS. KLOTZ, ROBINSON, SHERWELL and WHITEHOUSE concurred in this opinion.

DR. BRONSON said that because of the presence of the papules with the glistening tops it seemed to him that this was a case of lichen planus. He could find no evidence of eczema, particularly as with the intense itching there should have been much more exudation if the case were one of eczema. The diagnosis of lichen planus seemed to him to explain the localized pruritus better than anything else.

A Case of Tertiary Syphilis with Sycosis.—Presented by DR. A. R. ROBINSON.

DR. DADE thought the case was one of sycosis.

DR. SHERWELL accepted the diagnosis. He said that a seborrheic condition was often seen, seemingly dependent on the syphilitic state, and that syphilis had probably been the exciting cause of the sycosis in this case.

DR. BRONSON regarded the case as sycosiform at all events, but as syphilis was an imitative disease it seemed perfectly possible for the pustulation to have developed in the follicles and then simulated sycosis. The case had impressed him as one of syphiloderma that had undergone suppuration and become sycosiform.

DR. FORDYCE said that the lesions on the forearm he would look upon as syphilis with possibly also an infection with pus organisms. The lesions in the beard were the result of infection with pus organisms.

DR. BULKLEY saw no reason why there should not be several separate lesions in the same individual.

DR. JACKSON agreed with the last speaker that there was no reason why sycosis should not occur in connection with syphilis. He thought that the patient had both syphilis and sycosis, and that the one had no influence on the other.

DR. KLOTZ thought the sycosis was a coincidence, and entirely independent of the syphilis. Only if quite irritative treatment would be applied the lesions might take on a more irregular character. One peculiarity of the case was the syphilide on the forehead. Sometimes these papular syphilides in large patches appear at a very late stage of syphilis. He had now in the German Hospital a man who had two similar large patches over the calves. These consist of flat scaly papules which show no tendency to break down.

DR. ROBINSON said that he regarded the sycosis as purely the result of infection with staphylococci, and as having nothing whatever to do with syphilis. There were some inflammatory lesions which show a peculiarity in persons who have

had syphilis perhaps many years before, and where is no reason to believe that the germs of syphilis are still present. Such immune individuals in other words, present a peculiar reaction in connection with certain inflammatory lesions.

A case of multiple extragenital chancres—two on bridge and root of nose, the third and largest just above and to left on the forehead—presented by Dr. C. T. Dade. The patient shows on body a general macular eruption only. The pre-auricular glands markedly enlarged also those of antero-cervical region, especially left side. Examination of penis and anus proved negative—inguinal and femoral glands not enlarged. Mouth negative; submaxillary glands normal. The patient has only just come under observation, but the present condition of the lesions may be accounted for, as stated by patient, by their having been persistently cauterized with acids.

DR. H. G. KLOTZ considered the ulcers on the forehead and nose to be the primary syphilitic lesions. The distinctly swollen glands in the vicinity, and the history, as he understood, pointed to this being the true condition.

DR. GEORGE T. JACKSON said that when he saw the case at the Vanderbilt Clinic he first took it to be a late ulcerating syphilide. He was surprised to find that the man had a general maculo-papular syphilitic eruption. Although he had never seen such queer-looking multiple initial lesions, and specially initial lesions that melted into each other like late tubercular syphilides, still when one considers the sequence of events in the case, and the enlarged glands in front of the ears it would seem as if these must be multiple initial lesions, a unique case. Perhaps the peculiar appearance of the ulcerations is due to the treatment to which he has been subjected by caustics by his private physician.

DR. L. DUNCAN BULKLEY thought a lesion on the nose was the initial lesion; certainly it did not agree with those on the rest of the body, which were those of early syphilis. The great adenopathy on the left side of the face and neck pointed to an initial lesion.

DR. G. H. FOX regarded the case as one of early ulcerative pustular syphilide. He now had at the Skin and Cancer Hospital a case exhibiting a number of early ulcerative lesions. There was one on the wing of the nose and one on the eyelid. A pustular syphilide would often produce such lesions in a broken-down subject. The appearance presented in the case under discussion resembled the primary lesion, yet it also presented the appearance sometimes observed in early ulcerative lesions. He did not think an initial lesion would appear upon both the nose and forehead within a few days, as stated in the history, and he was inclined to think that the initial lesion had preceded these two months and had been overlooked.

DR. J. A. FORDYCE said that if he had seen these lesions in any other locality he would certainly have looked upon them as multiple chancres. It was interesting to note that irritating applications had been made to them.

DR. E. B. BRONSON regarded them as initial lesions and that the adenopathy confirmed this view. The multiplicity was not against such a diagnosis, as multiplicity depended upon auto-infection later. A curious feature of the case was that whereas usually after the occurrence of constitutional symptoms the primary lesion rapidly subsides and heals, it had not done so in this case. This might be the result of the man's cachectic condition, and partly also to the irritating treatment employed.

DR. C. W. ALLEN said that both the initial lesion and an early syphilide could produce very much the appearances presented in this case. An initial lesion

might be phagadenic and long-lasting. There might again be a pustular ulcerating lesion as the first manifestation of secondary lues under special conditions. Dr. Morrow had an illustration in his book of a patient of Dr. Allen's who presented this early ulcerating syphilide.

DR. S. SHERWELL thought these ulcers were the primary lesions affected and intensified by escharotics. He had never seen but one case of primary syphilis on the nose, and that had been in a young nurse girl who had become infected from fondling an infant congenitally affected, and had contracted the lesion on the point of the nose. In that case the chancre was typical. How such lesions would act further up upon the nose he did not know.

DR. H. H. WHITEHOUSE said that he had recently had a case of a maculopapular syphilide of the body and a pustular crustaceous syphilide of the face. According to the history they had appeared simultaneously. At first, he had thought the lesions on the face were those of an irritated impetigo contagiosa; they had disappeared, however, under antisiphilitic treatment leaving scars. The case under discussion did not seem to belong to this class because of the adenopathy. He was inclined to think that the lesions on the face were the primary sores, perhaps irritated by the caustics used.

DR. DADE said that Dr. Allen's case of pustular syphilide was more general. The two papules which had appeared first had developed eight weeks ago. The pre-auricular glands were markedly enlarged and also all of the glands on that side of the neck. Examination of the anus and of the penis was absolutely negative. He felt positive that these were the primary lesions.

A Case for Diagnosis.—Presented by DR. S. SHERWELL.

The patient was a medical practitioner, thirty-nine years of age, who had come to him the day previous with a lichenoid eruption over the face and neck, and invading the scalp. It was also pronounced on the forearms, backs of hands, less so on the lower limbs, and to some extent on the whole body. It was evidently follicular in origin. The skin of the backs of the hands and fingers had the appearance and exact distribution of lichen rubra pilaris. He had had a somewhat similar eruption at about the same season of the year fourteen years ago, and under general treatment, alkalinization of the urine, etc., it had gradually disappeared after some months. The patient said that he could attribute it only to exposure to the weather. He is somewhat constipated. He had noted that his urine was acid and of high specific gravity. He had had some rheumatism, but not of an inflammatory nature. With the exception of the cutaneous affection he was in perfect health. There was nothing in the family history bearing on the condition.

DR. JAMES C. JOHNSTON thought the diagnosis was pityriasis rubra pilaris in spite of the statement that the same thing had appeared fourteen years ago. If the condition on the palms were only of sixteen days' standing it was certainly most unusual.

DRS. ROBINSON, KLOTZ, JACKSON, FOX, BRONSON, ALLEN, DADE, and WHITEHOUSE concurred in this diagnosis.

DR. BULKLEY accepted this diagnosis, and said that he had seen other cases which had been quite as acute, particularly when situated on the back of the hand.

DR. FORDYCE said that he had seen cases develop rather acutely, the first lesion being a general erythema with secondary involvement of the follicles. Pityriasis rubra pilaris was something of a misnomer, for the involvement of the follicles

was sometimes accidental. There was very little evidence of inflammatory action in the derma, the chief lesion being a thickening of the horny layer.

DR. SHERWELL said that in spite of the opinion generally expressed he was disinclined to accept this diagnosis, certainly would prefer to wait awhile. He had never seen a case of pityriasis rubra pilaris which had appeared in such a short time. He could not personally make a positive diagnosis, although if the process had been less acute he would have been willing to make the diagnosis of pityriasis rubra pilaris, which it certainly resembled. Just at this season of the year there were many erythematous troubles which take on peculiar forms, and he was inclined to look upon it as an erythematous process coming on as a result of exposure. There had been but little pruritus, so common a symptom in L. P. R. He had prescribed wine of colchicum and sulphate of magnesia, and a lotion of bichloride of mercury and resorcin. The patient had promised to report.

A Case of Primary Syphilitic Lesion of the Palm.—Presented by DR. C. W. ALLEN.

The patient was a gentleman whom he had first seen that morning in his office. There was a lesion on the ball of the right thumb which had existed for four weeks. There was no glandular enlargement.

DR. ROBINSON accepted the diagnosis.

DR. KLOTZ said that the absence of enlarged glands was not sufficient reason for doubting the diagnosis of initial lesion of syphilis.

DRS. JACKSON, BULKLEY, FORDYCE, BRONSON, and SHERWELL concurred in the diagnosis.

DR. ALLEN said that there was a history of exposure of the hand to infection from the female genitals without there having been sexual intercourse, which accounted for absence of sore on the penis.

A Case of Erythema Multiforme, Papular and Tubercular.—Presented by DR. A. R. ROBINSON.

This was a well marked case, the patient being a young girl. It had existed for four weeks, and was confined to the back of the hands and to the ears.

DR. C. T. DADE said that the case seemed to him rather like one of lupus erythematosus.

DR. ALLEN thought it was like other cases that he had seen, and which he had designated in one instance necrotizing chilblain lesions. He had quite recently seen an almost identical case to the one now presented, in a young girl.

DR. FORDYCE said that he was inclined to look upon the case as a lupus erythematosus in the early stages. He had seen such cases presenting the features exhibited by this one.

DR. FOX said that the case resembled necrotizing chilblain, yet he inclined to the diagnosis of lupus erythematosus.

DR. BULKLEY called attention to the condition found on both ears, which he could not conceive as being present in erythema multiforme, though just what one would expect in lupus erythematosus. Kaposi had described cases which were even more acute than in the present case, and were associated with some fever. He would adhere to the diagnosis of lupus erythematosus.

DR. JACKSON thought the case was probably one of lupus erythematosus, but he could not make a positive diagnosis.

DR. KLOTZ inclined to the diagnosis of lupus erythematosus. He had seen last fall an interesting case, that of a married woman of about thirty years, on whom an eruption had first appeared in November, 1899, of distribution similar to the

present case, including one ear. Since then there had been an attack every two months. During the first winter they had been quite severe, accompanied by fever, but had been milder in the summer. When he had first seen her last fall there had been quite severe lesions on the hands and knees. On the right knee there was a large infiltrated patch, showing slight breaking down in the center resembling syphilis, and on the left knee was a squamous patch looking more like psoriasis. On the back of the hands were papules, distinct wheals, some bearing small vesicles on the palms and pure vesicles. She has since been taking iodoform internally, and while the attacks have been just as frequent they have been much milder. The periodicity of the eruption pointed indeed to erythema, at the same time the lesions were more intense and lasting than usually observed in erythema and suggested some deeper affection.

DR. JOHNSTON did not think the diagnosis could be settled except by prolonged observation. If it were lupus erythematosus he hardly thought it would have all of the present features. The lack of much exudation in the lesions ought to exclude it from the class of exudative erythemas. There is a central atrophy with hemorrhage. He did not believe that when the lesion fades it would leave the scar which every one recognizes as characteristic of lupus erythematosus. Moreover in such a disseminated case it should appear on the face. He objected strongly to the statement that it resembled necrotizing chilblain. The latter remains a nodule from the start to the finish, and is characterized by a central necrotic plug, which separates.

DR. WHITEHOUSE agreed with the last speaker that the case should be watched for a considerably longer time before making a definite diagnosis, yet he was inclined to the belief that it was a case of lupus erythematosus. The beginning of the disease upon the scalp was one of the points favoring this diagnosis. The lesions upon the fingers were beginning to flatten, and these certainly resemble very closely those seen in the case presented by Dr. Allen.

DR. ROBINSON said that he had seen the case three times, and had studied it carefully. At first, he had thought it to be erythematous lupus. What at first appeared as scar formation had proved to be a serous transudation. Close examination showed that there had been an attempt at the formation of a bulla, and no attempt at scar formation in the two larger lesions. Examination of the smaller lesions would show a little depression in the center if a magnifying glass were used. This probably corresponds to the follicular orifice. The ear condition when first seen showed a distinct serous exudation on the surface. He did not believe it was possible for any one to make the diagnosis now. The lesions seemed to him to present a circumscribed edema of the skin, and he did not think there would be any scarring after their formation.

A Case of Verruca of the Nail.—DR. E. B. BRONSON.

The case occurred in a boy, and was of four years' duration. It had been thoroughly curetted. After having applied a 30 per cent. acetic acid solution he had removed a rather soft cheesy mass, thus showing the nature of the growth underneath. He purposed trying electrolysis hereafter instead of curetting.

DR. ROBINSON said that he had seen three of these cases, although they were stated to be very rare. In two of the cases there had been no warts on the hands at all. This condition of the nail he believed to be of a different nature from the ordinary warts on the hands. It was certainly very much more difficult to cure and the carnification was very different. On first curetting this case the mass had

come off almost like a horn. A colored plate was presented, showing a case of this kind occurring in a young lady.

DR. BULKLEY said that he had made use of arsenic internally in many cases, and had been surprised at the rapid disappearance of the warts.

DR. ROBINSON said that he had used arsenic freely and had never seen the slightest effect upon the warts.

Lupus Erythematosus of the Pernio Variety.—Presented by DR. C. W. ALLEN.

The patient was a young girl, and the feet, hands, and face were affected with tender, painful bluish lesions. It had existed eighteen months on the face, in butterfly shape, and on the hands for the past three months. The pain and tenderness seemed to be aggravated by cold water and cold weather.

DR. JOHNSTON said that he believed this was the first case of this kind that had been presented to the Society for ten years or more. He thought the name should be dropped, and that it should be simply called lupus erythematosus although this particular modification was dependent upon cold weather.

DRS. ROBINSON and BULKLEY agreed with the diagnosis.

DR. ALLEN said that the lesions in the beginning on the feet had resembled erythema multiforme of the exudative type, and had been so severe that she had been unable to walk for several months.

A Case of Scleroderma.—Presented by DR. A. R. ROBINSON.

The patient had been presented to the society about two years ago, and some doubt had been expressed at that time as to its exact nature. It had commenced six years ago with swelling of the hands and feet and edema. This had lasted for about six months, and then the face had become so fixed that he could scarcely open the mouth.

DR. BRONSON thought a better name would be subcutaneous sclerosis.

DR. FOX said that the case had been under his care at the Skin and Cancer Hospital for a year or more and had improved. He claimed that the term scleroderma was fairly descriptive though not exact because the case seemed to be rather one of muscular atrophy. While under Crocker's care in London it was stated that his face had been like a board. He had certainly improved a good deal since last seen.

NEW YORK DERMATOLOGICAL SOCIETY.

297TH REGULAR MEETING, MAY 21, 1901.

HENRY H. WHITEHOUSE, M.D., *President*.

Two Cases of Chronic Arsenic Poisoning.—Presented by DR. E. B. BRONSON.

The two patients (mother and daughter) had taken arsenic regularly for some nine years until within a month or two. The drug had been prescribed for what in the mother was said to be acne (probably rosacea) and in the daughter eczema. The dosage had been large, it would seem, but just how large could not be ascertained. Occasionally the arsenic would be stopped for short intervals when it would cause too much swelling of the eyes or pain in the stomach, but practically the dosing had been continuous for nine years.

At present both patients show marked tremor of the hands and well developed

keratosis. The daughter, who is something over thirty years of age has numerous pigmentary lesions on the face, neck, chest and back of hands. They are mostly lenticular. On the mother's hands are two or three very dark, almost black, spots of pigmentation about the size of the little finger nail. On the palmar and plantar surfaces as well as upon the insides of the fingers are numerous cavities usually lenticular in size and occurring in closely clustered masses. Occasionally they assume a warty character with a prominence of two lines or so above the niveau. In addition to the cutaneous lesions the patients complain of "hot flushes," debility, and dyspepsia, though these symptoms have diminished latterly.

DR. J. A. FORDYCE said that the case was very interesting in view of a recently published investigation on an epidemic of arsenical poisoning in England. In this article many cases of keratosis of the palms and soles had been reported. He had himself seen such cases of keratosis resulting from the use of arsenic.

DR. S. SHERWELL said that arsenic was known to have the power of reducing keratosis, and hence it was curious if, as reported, it also produces keratosis. He had under his care now a case of keratosis of the soles and palms, and under the administration of arsenic and local treatment it was notably diminishing. Keratosis was relatively rare, and it should be very common if it was the rule for arsenic to give rise to keratosis. It was known that keratosis is hereditary, and this was interesting because of both mother and daughter being affected in the cases just presented.

DR. C. W. ALLEN said that at one time he had presented a physician to this society with an arsenical keratosis of the palms. He had been treated for some time with apparent benefit by minute doses of arsenic. He had then treated him with antimony and salicylic acid locally, and further improvement had been effected, but he did not think a cure had yet been produced.

A Case for Diagnosis.—Presented by DR. C. T. DADE.

Patient was a woman whom he had but just seen that day, and had had no opportunity of getting a complete history. The eruption had begun three years ago on palms of both hands, and had continued to spread. The bright redness, scaliness, absence of induration or thickening of any kind led him to think of pityriasis rubra strengthened in this view by the similarity to a case of Dr. Jackson's that started in the same way.

DR. FORDYCE thought the case looked like one of pityriasis rubra pilaris, but he would hesitate to make that diagnosis positively in this instance.

DR. GEORGE T. JACKSON said that the case was almost an exact counterpart of one presented by him to the society some years ago, occurring in an Italian woman. He had had her under observation for a long time. After some months the disease had appeared on the other portions of the body, and a number of the members of this society had then agreed that without question it was a case of pityriasis rubra.

DR. BRONSON said that he had seen the same disease in a young woman, and although it had existed for years there had not been the slightest disposition to spread from the hands to any other part. It was red and scaling, and there was an entire absence of exudation on the surface.

DR. SHERWELL said that he was not prepared to make a diagnosis. He would like to see the antisyphilitic treatment thoroughly tried. The side of one or two of the nodules seemed to him rather significant, as it was fairly characteristic of syphilis.

DR. H. G. KLOTZ agreed with the last speaker regarding the probability of this being a case of syphilis.

DR. S. LUSTGARTEN thought the case came nearest to those described as acquired keratoderma palmaris, no doubt modified by treatment.

DR. DADE said he thought eczema could of course be definitely ruled out. As regards syphilis that had occurred to him but the symmetry, color and absence of clinical features that would rank it with a tertiary manifestation which it could only be, if at all, made him doubtful. He could not see that it bore any resemblance to Besnier's keratoderma erythematosa symmetrica. Antisyphilitic treatment would be tried out of deference to the opinion expressed and result reported.

An Acute Form of Lupus Erythematosus.—Presented by DR. BRONSON.

DR. ALLEN said that he had been curetting lupus erythematosus for some time, and had come to the conclusion that this curetting of the border was much better treatment than the application of resorcin, carbolic acid and similar substances. One patch at a time should be taken and the border carefully curetted.

DR. SHERWELL said that he had used formalin in varying strengths in a few cases, and with seemingly good results. Even in 40 per cent. strength this application had not been especially painful.

DR. JACKSON said that Brook, of England, had recommended recently the treatment of lupus erythematosus by the use of an application consisting of 40 parts of salicylic acid, 10 parts of pyrogallic acid and 100 parts of collodion. It is painted on, and when it peels off the application is repeated. He had tried this method in a few cases, and had been favorably impressed with it.

DR. H. H. WHITEHOUSE thought this was just the class of case which responds especially well to iodoform internally in doses of one grain, three times daily. For the first week or two he had found that this caused a marked reaction in the skin lesions, but as soon as the reaction had subsided the improvement was rapid and marked.

DR. BRONSON said that he had more faith in the general exfoliative plan of treatment than in any other. Carbolic acid causes too much injury to the skin. In resorcin one has an appropriate remedy, and it can be used in gelanthum 40 per cent. strength. After three or four days exfoliation of the epidermis would take place without any tendency to blistering. This treatment almost invariably causes at least temporary benefit. It also acts well in some cases of rosacea. He had never been able to give iodoform internally for any length of time on account of the distrust which it engenders, though he thought the treatment was theoretically appropriate because these cases were apparently the result of the circulation of some toxins in the blood.

A Syphiloderm (?)—Presented by DR. BRONSON.

The patient was a man with clear history of syphilis, who had had an eruption for some time that Dr. Bronson had been unable to identify as a syphiloderm. At present it looked like a mild attack of psoriasis.

DR. JACKSON thought the case was probably syphilitic.

DR. SHERWELL thought there was evidence of more scarring than was usually observed in pure psoriasis. Syphilis sometimes makes a seborrhea more active.

DR. KLOTZ said that some of the lesions were undoubtedly of a syphilitic character, and hence it was probable that the whole eruption was syphilitic. One should bear in mind the fact that antisyphilitic treatment often may cause the appearance of a hybrid form of eruption. The distribution here was not characteristic of psoriasis.

DR. LUSTGARTEN thought the case was one of psoriasis or psoriasiform eczema.

DR. O. H. HOLDER said that on the left leg the papules were so very large and absolutely without scales that he would pronounce them to be syphilitic.

DR. J. M. WINFIELD thought the appearance presented by this patient was one of syphilis rather than of psoriasis.

DR. WHITEHOUSE said that some of the papules were quite shot-like in feeling, yet there were here and there papules which were undoubtedly psoriatic. He was of the opinion that the majority of the lesions would conform to psoriasis, and that the man had both syphilis and psoriasis.

DR. BRONSON said that when first seen this patient had presented a history as well as lesions pointing to syphilis. There was already slight atrophy of the center of the papule with an indurated border—a condition very characteristic of syphilis. The whole back of the hand was decidedly reddened and scaly without any evidence of papules except on the periphery. The distribution and grouping of the eruption over the body was less like syphilis than psoriasis. There was no regularity of the grouping of the lesions or as to their size. The evolution of the papules had been more like syphilis than psoriasis. Under antisyphilitic treatment there had been scarcely any change, whereas under a short course of treatment for psoriasis the improvement had been more marked. Syphilis might certainly invoke latent tendencies; he was sure he had seen latent psoriasis made manifest by the presence of syphilis.

A Case of Lepra.—Presented by DR. BRONSON.

The case had been under the care of Dr. Fordyce some years ago. It was of the mixed type, and at present no active signs of the disease were present except in the eyes.

DR. FORDYCE said that at one time this man had been under his care at the City Hospital, and had received chalmogra oil in doses of fifty minims, three times a day until it had caused considerable gastro-intestinal irritation. There had been at the time leprous nodules removed from the cornea by Dr. Peck. He believed the oil only exerted a temporarily beneficial influence.

DR. BRONSON said that the man had not been taking the oil for about one month, but like all other cases coming to New York city had improved as a result of the effect of the climate. He believed in the efficacy of chalmogra oil because he had seen them relapse when this oil was stopped. A case of anesthetic leprosy was recalled in which the patient had arrived in this country in very bad physical condition, yet under the influence of the climate and of chalmogra oil he had improved so remarkably as to hardly be recognized as the same man. After a time he had stopped treatment, and had relapsed, but had again improved when put upon the oil again.

Chancre of the Finger with Seborrhoic Eczema.—Presented by DR. J. A. FORDYCE.

The patient was a man who had come to him about one month ago with a peculiar fungating and very painful sore on the tip of the index finger, said to have been caused by the burn of a match. He had curetted the sore, and this had been followed by enlargement of the axillary and post-cervical glands, and subsequently by an eruption on the body. The man had been presented to the society two years ago with an eruption which was supposed to be a generalized seborrhoic eczema of the psoriasis type. Before the present eruption there had been squamous lesions over the body. It was now somewhat difficult to distin-

guish the scaling papular lesions belonging to the seborrhoic eczema from the early syphilitic outbreak on the skin.

DR. JACKSON accepted the diagnosis. He said that very often a seborrheal dermatitis influences the eruption of syphilis.

DR. KLOTZ said that the condition of the primary lesion was rather remarkable, being eczematous at the present time.

DR. ALLEN said that he did not think the diagnosis of the finger lesion could be made at the present time. The eruption on the trunk was distinctly that of syphilis.

DR. LUSTGARTEN said that it was an interesting dermatological picture, but was plainly a combination of cutaneous affections.

DR. FORDYCE said that he had presented the case because when first seen the fungating sore spreading serpiginously had not been recognized by him as the primary lesion of syphilis.

A Case of Relapsing Purpura.—Presented by DR. FORDYCE.

The patient was a man who had had repeated outbreaks of a generalized purpura for several months, attended by constitutional disturbance, as fever, sweating, loss of strength, appetite, etc.

All the usual internal remedies as well as prolonged rest in bed had proved of little benefit. An examination of the patient's mouth showed the presence of numerous carious teeth, a spongy condition of the gums due to the accumulation of tartar and a very foul breath. On the theory that the purpura might be due to an infection from the mouth, it was thoroughly cleansed and disinfected, and the spongy gums painted with a solution of chromic acid thirty grains to the ounce. The improvement in the patient's general condition was almost immediate, apparently as a result of the treatment. The purpura eruption practically disappeared after a few days. Mild relapses have, however, since occurred, but are not to be compared in severity to his former ones.

DR. LUSTGARTEN thought it was well to look into the mouth in search for sources of infection. He had two cases of very obstinate purpura, which were only relieved by attention to the pathological state of the tonsils. It was hardly necessary to recall the fact that purpura arises from many conditions, such as the taking of iodide.

DR. ALLEN concurred in the opinion expressed by the last speaker.

DR. KLOTZ said that he now had a case in which the attacks had lasted since January. The treatment so far employed had been unsuccessful, so he would give careful attention to the mouth.

DR. SHERWELL said that many of these cases of purpura seemed to be associated with disorder of the liver and of the bowel, often characterized by alternate constipation and diarrhea.

DR. BRONSON said he would like to know if suppurative throat diseases are especially liable to be followed by eruptions on the skin. This statement had been made to him by a throat specialist in this city who claimed to have often seen chronic papular eruptions follow disease of the tonsils.

DR. FORDYCE said that it had occurred to him that the case under discussion might be one of scurvy, but the mouth presented the appearance often seen in dispensary patients as a result of years of neglect of the mouth and teeth. There had been some pain in the joints, but no fluid effusion in them. Before instituting the treatment of the mouth the man had been so ill as to be in bed most of the time. Some years ago Dr. Fordyce said he had seen a gumma of the throat

followed by an erythema multiforme on the arms and forearms. Under the iodide the gumma had healed with a simultaneous disappearance of the erythema multiforme. Subsequently the gumma had broken down again, and once more the erythema multiforme had appeared.

A Case for Diagnosis.—Presented by DR. DADE.

This case had been presented by Dr. Fox last autumn. At that time the lesions were very numerous, and although there were fewer now the lesions had never entirely disappeared. He had been on mixed treatment for two months or more, but the lesions had continued to appear while under that treatment.

DR. LUSTGARTEN said that the case impressed him as one of the types of sarcoma cutis. He would expect that arsenical medication would prove efficacious.

DR. BRONSON suggested the possibility of its being erythema induratum. He had seen one case of this affection occurring on the back of the legs in a young girl. It was worse in winter, and commonly occurred in scrofulous or weakly subjects. There was a marked tendency for the lesions to break down like gummata.

DR. FORDYCE said that a physician had recently consulted him for very similar nodules. Some of them had been cut out and examined microscopically, but he had not heard definitely the result of this examination farther than that they were not sarcomatous nodules. This patient was a gouty subject, and he had been advised to let the nodules alone.

DR. WHITEHOUSE thought the very sudden appearance of these nodules would be against the theory that they were sarcomata.

DR. LUSTGARTEN said that quick formations of tumors were observed in certain forms of pseudoleukemia.

DR. DADE said that the situation of the lesions corresponded exactly with the descriptions given of indurated erythema; were more often felt than seen; and presented the "cake-like" feeling under the skin. This was the third attack, and the lesions were certainly fewer now than when seen last October. These lesions never appear on the front of the leg, and are never painful.

DR. SHERWELL said that he had had a report from the physician presented at the last meeting. He was now better and the improvement, though slow, had been continuous. He had been put upon a tonic containing quinine, sulphuric acid, tincture of nux vomica and small doses of wine of colchicum. Locally he had used the white lotion of bitter almonds containing a little resorcin and salicylic acid. The physician had promised to report on his case from time to time.

DR. BRONSON presented a photograph of a case of spontaneous atrophy of the feet and legs in a young child associated with that peculiar form of atrophy affecting the forehead in two diverging lines extending from the inner end of the brow, one parallel to the median line, the other towards the middle of the upper part of the forehead. The affection had begun about a year ago.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

*Wednesday Evening, January 16, 1901.*W. K. OTIS, M.D., *Chairman.*

ORDER.

REPORT OF CASES.

1. Fibro-Sclerotic Plaque of the Corpora Cavernosa.—DR. JOHN VAN DER POEL.

2. Cases of Urethral Calculi, with Specimens.—DR. JOHN F. ERDMANN.

Fibro-Sclerotic Plaque of the Corpora Cavernosa.—DR. VAN DER POEL.

DR. VAN DER POEL.—I can simply read the history of the case, as the patient has not presented himself. I have seen him but once during the past year, and this history was written a year ago.

"Age, thirty-six; single; first seen on December 1, 1899. He had given no history of gout or rheumatism; no family history of cancer. History of syphilis uncertain. Had a sore on penis in 1882, accompanied by suppurating bubo. At this time he had a vesiculo-pustular eruption, which lasted four weeks; no treatment. That is, he thinks he had it at that time, but is uncertain. He had a second sore in 1891, accompanied by patch in the corner of the mouth, which lasted two to three weeks; no treatment. Third sore in 1894; no complications. Therefore it is impossible to say from any of these whether he has had true chancre or not. Has had clap four times, first in 1884, last in 1894. Cut for stricture in 1898, one at 1. ctm., one at 4. ctm., and one in the deep urethra. First noticed present trouble three and one-half months ago, when it was about the size of a bean. When first seen the plaque was of the usual saddle-shape, involving equally both cavernosa, about 2 c.m. posterior to the glans, measuring 2 c.m. antero-posteriorly by about the same laterally and one-quarter to one-half c.m. thick; non-movable, but not attached to the skin, which was freely movable upon it. It was neither tender nor painful, either when flaccid or during erection. Since first seen two and one-half months ago it has increased in size, especially laterally, and now approaches a semi-circle. During erection the organ is bent somewhat upwards, but is still non-painful and does not interfere with coitus. The urine contains neither sugar nor albumen. The patient has been on large doses of iodide for the past month; *i.e.*, 60 drops t. i. d."

He was desirous at the time I first saw him of having the growth removed, but from this course I dissuaded him, fearing that the resultant deformity would be worse than the original trouble. Three and one-half months later it had extended upon the left side, around toward the urethra, forming a semi-circle, but after this time I lost track of him and did not see him until two weeks since, when

upon examination I found the growth in practically the same condition, somewhat smaller upon one side, somewhat larger upon the other. Coitus has not been interfered with at all. He is a man prone in that direction, and states that upon one occasion, when circumstances were forced upon him, he had connection eleven times in one night, I take his history to be truthful, because he has no reason for lying. Both this case and the one I presented at the last meeting of this Section gave a history of increased sexual desires during their entire life.

In answer to the question which Dr. Brewer asked last time as to the presence or not of calcareous deposit in the mass, I would say that but few cases have been examined. Most of these consisted of fibrous and fibro-elastic tissue.

DR. BREWER.—What treatment did you suggest in this matter?

DR. VAN DER POEL.—I suggested the treatment in this case the same as suggested in the last one—that is upon a milk diet. It is simply tentative; I expect no famous results. I now have two on a milk diet.

DR. SWINBURNE.—I have only one thing to say in regard to the changing of the conditions in some of these cases. I have a case at the Dispensary I have been observing now for a little more than a year. The man is rather older—nearly sixty years old, and at the anterior extremity of both corpora cavernosa the first time I saw him he had a very distinct amount of induration, not saddle-shaped, extending from the glans penis backwards, and it suggested very much in the early stage of a similar case that Dr. Chetwood once showed, having a bony formation in the septum between the two corpora with infiltration of calcareous deposit. I lost sight of the man for several months. When he came again the indurations had changed and there was more induration than there was before. It is a very curious condition, and distinctly resembles those cases of fibrous plaque, only the position occupied the septum between the corpora cavernosa instead of the dorsum.

DR. BREWER (on Dr. Van der Poel's Plaque Cases).—Has any one known of an early operation, when it was very small, whether there has been any tendency to recur? It seems to me that in the very early stage, where it is small, it could be easily excised without producing extraordinary deformity. I wondered if that had been usual in many cases.

DR. GIBSON said he thought such cases had been recorded several years ago. These tumors had been reduced to their proper basis as starting from the epithelium of the vessels and there was absolutely no malignancy so far as known or heard. Specimens had been removed by operation.

DR. VAN DER POEL.—I don't know of any case that has been removed very early. The trouble is, I think, most of these cases simply report themselves after the tumor has gone on to some fairly good size. The amount of tissue that it would be necessary to cut away to examine the case would almost necessarily result in a deformity of the corpora cavernosa worse than before operation.

Cases of Urethral Calculi, with Specimens.—DR. JOHN F. ERDMANN.

DR. ERDMANN.—Specimen No. 1 was obtained from a lad seven years old. He gave a history of pain in the penis and inability to urinate. Examination by family physician with instruments showed a gritty body in the mid portion of the pendulous urethra. This could not be displaced. He was sent to me at Gouverneur Hospital, where unsuccessful efforts were made to extract through the urethra and also to displace backward. An incision was made directly over the stone through the corpus spongiosum, and this stone the size of a pea removed. The urethra was sewed with a deep row of catgut sutures and the skin

with another row. The boy made a perfect recovery, being discharged in a week or ten days.

Specimen No. 2, $1\frac{1}{8}$ inch long $\times \frac{7}{16} \times \frac{3}{8}$, was obtained from an adult about fifty years of age—a barkeeper, who stated that when about twelve or fourteen years old he had received an injury in just about the location of his present trouble; that he had for years pain and difficult micturition and occasionally almost complete stoppage. The day before I saw him, my friend Dr. Unger was called to draw his water, and upon attempting to pass a medium-sized instrument met an obstruction at the peno-scrotal junction. He finally was able to pass a small size, about No. 8 F. The next day when I saw him I found a hard mass (painful) at the peno-scrotal junction, about one and one-half inches in all directions. Metallic instrumentation gave a decided click at this point. He was transferred to St. Mark's Hospital and operated upon (after ineffectual efforts to extract the stone) by cutting directly down upon the stone. The stone lay obliquely in a pocket fully one-half again the size of the stone, which you see resembles very much an elongated and rotund olive pit. He was discharged with a fistula at the end of a week, since which time he has not reported for further treatment, but is at work in his former occupation.

DISCUSSION.

DR. GIBSON said that some years ago he had had a mishap in passing a metallic instrument—a very small bougie-à-boule, an obstruction being met with in the penis, and the bougie passing by the urethral calculus and not being able to withdraw it. The bougie had to be withdrawn through the perineal opening after the top of it was cut off.

DR. OTIS.—Of course these calculi which are formed in the urethra, the only method of extracting them is to cut for them; but in those cases where the stone comes from the bladder and is retained in the urethra the question of how is the best way to get it out is one that quite commonly comes before us. I have had a number of those cases recently, and I have found that the little lithotrites which the French use are of no use to me at all. I have not had any success with the urethroscope in getting out these stones, though I have been able, where the stone was situated in the penile portion, so you could get your urethroscope well around it and hold it in position, to pass a pair of very small forceps, originally intended to take out a bullet with, behind it and remove it in that way; but very frequently I have employed a plan which I have adopted whenever I found it possible, and that was to pass a sound and push the stone back into the bladder and then pass through a small lithotrite, crush it in the bladder, rather than perform a cutting operation. A great deal of time is wasted trying to push the stone out of the anterior meatus, when it could much easier be pushed back into the bladder. I have found in actual practice no difficulty in having it go back with great ease, although, of course, it might catch.

DR. HAYDEN.—In two cases I have pushed a small stone backwards from the prostatic urethra into the bladder, and then crushed and evacuated it. In each instance I was surprised to see how readily it was forced backward, in one case by a sound, and in the other by a woven silk catheter.

DR. ERDMANN.—When the patient came to the hospital his penis was one mass of blood clot. A number of unsuccessful attempts were made to remove it by means of delicate forceps and bullet forceps and ordinary crushing forceps, the

small pieces you see are the result in part of manipulation, and we tried to drive it backwards into the bladder. We could not do that, so concluded the less manipulation we did, the better it would be for the patient, and so cut him.

DR. BROWN.—I understand, Mr. Chairman, that in some cases you have found these stones wedged in the anterior urethra and that they were pushed back into the bladder.

It seems to me to be rather a dangerous expression to issue from this Society unchallenged that this is always the best way to manage stones firmly lodged in the anterior urethra unless the urinary pressure has been exerted for a considerable time and the urethra posterior to the stone so dilated as to have greatly overcome sphincteric action, otherwise the hope of making a stone traverse safely by instrumental pressure from the bulbous urethra into the membranous would seem to be attended with more hazard than would an external urethrotomy. This does not, of course, apply, Mr. Chairman, to one who can manipulate urethral instruments with your facility.

DR. VALENTINE.—I feel safe in saying that the surgically made wounds of the urethra heal more kindly than is generally assumed. With most of the dread of urethral fistula so disposed of, I have on several occasions removed stones and other foreign bodies from the urethra by incision when I could not otherwise do so. With one exception they acted as did the cases Dr. Erdmann reported. This one required a secondary operation to close the resultant fistula. In the light of my own experience, now strengthened by Dr. Erdmann's report, I certainly would look upon it only as a dernier resort, if I were compelled to thrust a urethral stone into the bladder.

DR. BROWN.—I would be glad to show a foreign body removed from the bladder of a man forty-nine years of age. A brief history of the case is as follows: A. X. was seen by me on August 22, 1900. He had had a gonorrhea twenty-five years ago a strictured condition of the anterior urethra resulting, which during the past half year annoyed him with such symptoms as mild scalding urination, a tardy stream and dribbling. For the relief he conceived the idea late in July of inserting a bird's wing-feather three and one-half inches long. This he first trimmed by cutting off the quill portion and the terminal side webs, but leaving their basal portions or barbs from one-quarter to one-half inch in length, and then passed to the depth of three inches with the barbs pointing forward and left in situ until the next call for urination. On withdrawal he found his condition somewhat relieved. The following repetition of this treatment resulted in the tip of the feather working downward out of sight and reach when sought for three hours later. Urination was now unusually painful and effected with a good deal of difficulty as if the feather were still engaged in the stricture. A day later there was a free stream, but pain at the end of micturition accompanied by a few drops of blood. The patient was quite sure that the feather had not been washed from the urethra and that his annoyance was due to its presence in the bladder.

The physician to whose courtesy I am indebted for the case had prescribed rest and urotropin with marked relief to his symptoms.

Examination of the urethra showed two distinct strictures, each just admitting a No. 15 French bulb. These were situated at two and three inches respectively. The urine passed in two glasses was clear, but showed a microscopic quantity of blood and epithelium; no pus.

He was sent to the Presbyterian Hospital, where on August 24 I made an internal and external urethrotomy. Through the latter wound the finger passed

into the bladder detected the feather in a flexible state lying mostly to the left of the median line. The barbs at its base were slightly encrusted with urine salts and stiff enough to catch on the finger to facilitate removal. Tube drainage of the bladder through the perineal wound was maintained for three days, until after the first introduction of urethral sounds. He left the hospital at the end of ten days with the perineal wound closed and the urethra admitting a 31 French sound.

Paper:—The Modern Urethroscope.—DR. WILLIAM K. OTIS.

DISCUSSION.

DR. H. G. KLOTZ.—It is only a few years since I have had occasion to state before this Section my opinion of the different urethroscopes; it was briefly this: that they are all more or less serviceable and well adapted to the purpose, and that you may obtain satisfactory results with every one after some practice. This I still maintain. It sounds strange and shows how rapidly medical science seems to be progressing, to hear of distinguishing a modern urethroscopy, when it is hardly twenty years that the ocular examination of the urethra came into practical use. It is true that the earliest experiments date back to the beginning of the nineteenth century, but not until after the publication of Grünfeld's book in 1881 did endoscopy really enter into practice and in this country before 1886 almost nothing was known about it. Since that time a great deal has been written and published on new, mostly electrical instruments of all kinds, but mighty little or nothing on the results which had been or would be obtained with these new more or less complicated instruments. Until it will be demonstrated that you really can accomplish more in practice with these instruments, I propose to stick to the method which I have employed for more than twenty years with very satisfactory results—the head mirror and the plain detached tube. On general principles the simplest instrument, with which you can obtain certain practical results, ought always to be given the preference; it is usually the cheapest and the least liable to get out of order. Laryngologists, who work at about the same distance from the eye as we do in the urethra, are still contented with the head mirror and do most of their work with it, without finding it necessary to poke a lamp into the corners of the larynx, except, perhaps, on exceptional occasions. I have, however, stated before, that I consider the ideal arrangement, a powerful electric light attached to a head-band, which throws its light without a reflector into the tube—instruments like that described years ago by Schütz or that little apparatus devised by our Chairman. But as to the advantages of an unencumbered tube, entirely detached from the light, I have not the slightest doubt. It allows of a much more firm and free handling and turning in every direction without any injury to the urethra. On several occasions intelligent patients, who had had experience with the electro-endoscope under the hands of skilled operators, have voluntarily made the statement that they found the examination with the detached tube much less painful and uncomfortable. But even greater is the advantage of the unencumbered tube if you come to the examination of the prostatic urethra and the deep urethra in general. In many instances you have to lower the ocular end considerably below the horizontal line and it becomes difficult to comfortably assume a position for looking in. With an illuminating apparatus attached and the two or three inches in length added the point of observation will be so much lowered that you must kneel or sit down upon the floor in order to make an ex-

amination. This may account for the fact that several authors who recommend the different electrical apparatus make the statement that endoscopy is not needed much in the prostatic portion, while in my own experience quite a number of important affections do occur there which I had no great difficulty to find.

DR. VALENTINE.—The serious work done in recent years in further development of urethrosopes shows the increasing demand for more light in the dark channel. Progressive authors, our Chairman among them, having devised instruments are continually inventing improvements thereon. The urethroscope he has shown us this evening is unqualifiedly a decided improvement upon the device he demonstrated here some months ago.

I would, however, take issue with him on several fundamental principles whose employment still leave his urethroscope with some unsatisfied desiderata. When he showed the urethroscope that preceded this one I objected to the fact that as he employs projected light the user must learn to "look around a corner," so as to eliminate the lamp-house standing at the ocular end of the tube. The author now presents this impediment to vision very much reduced in size, but it is still there. It is with the hope that the profession may have the benefit of our Chairman's extraordinary ingenuity that I endeavor to convert him to the use of direct illumination. My objection to his present urethroscope is coarsely illustrated, but I think effectively—assuming an equal illumination—by a small coin held close to the eye or a much smaller one close to the location illuminated. The coin close to the eye must cut off more of the field of vision than does the other. So it is with his lamp-house, which is about ten times as large as the tip of the light-carrier used in my urethroscope. Moreover in urethroscopy we do not examine flat surfaces alone. Our field of exploration and treatment embraces also the funnel or cone beyond the distal orifice of our tube; to do our work easily and effectively we must obey the ordinary optical law which requires for the greatest acuity of vision the greatest possible proximity of the source of illumination to the point to be illuminated. The author's light is at six and one-half inches from the point to be illuminated; the light in my urethroscope almost touches that point.

It is objected in my urethroscope that the little lamp interferes with swabbing and making applications to the urethra. Such an assertion can be based only on theoretical grounds. In fact, such interference does not occur. But with all urethrosopes, like the author's, which employ projected light the insertion of instruments, swabs, etc., passing in front of the light, cast their shadows upon the points at which they are to be used.

It is also objected that pus, blood or excessive secretion or lubricant welling into the tube inundate the lamp of my urethroscope. If they did this the lamp can be removed by a touch of the finger and washed and reinserted in less than five seconds. In the present form of my urethroscope, made by Tiemann & Co., of New York, but slight touch of one finger is used to attach or detach the light-carrier I now use. But if such an excessive oozing of blood or pus occurred that it would well into the tube sufficiently to inundate the lamp I use, it would certainly prevent vision with any other instrument.

While inclined to yield to the assertion that everyone is more kindly disposed to his own device than he would be to those of others, I still feel my urethroscope presents advantages over the admirable one Dr. Otis has shown us. The case, containing my complete outfit, is about two-thirds the size and weight of the one before us. My urethroscope contains five long and five short tubes, the latter

being especially convenient for examination and treatment of the pendulous portion of the urethra.

I emphasize the fact that my light-carrier has no handle; nor has it a switch to turn on or turn off the light. Such attachments, whose use I cannot appreciate, only encumber the instrument and increase its weight.

Despite all the objections I make to the perfected Otis urethroscope, I cannot but contribute my share of admiration for his well-known ingeniousness. But in doing so I hope in the course of time I may contribute to causing him to direct his skill to urethroscopy by direct light, such as is employed in my urethroscope.

DR. BROWN.—Mr. President: As to the relative merits of the different systems employing either the *reflected*, the *projected*, or the *introduced* light for illumination of the urethroscopic field we cannot let the question of brilliancy alone determine our choice, for there are other features unavoidably associated with each system which carry weight. For instance, a system which avoids all attachments to the tube without or within and offers a perfectly unobstructed exit for easy and quick swabbing and applications is to be preferred, and such an advantage can compensate for some degree of lessened illumination. If this is true the projected light from the Otis lamp attached to the tube is less desirable than the reflecting head mirror or the electric head lamp. Again, as Dr. Klotz has just said, the avoidance of anything which will add weight to the tube is desirable, since its introduction to the deep urethra must generally be done with great delicacy and at times passed very slowly.

While mentioning these as slight disadvantages inherent to even this latest and truly beautiful device of Dr. Otis, I must add that since the lamp is almost a feather weight and has a truncated cone-point these objectionable features have been purposely reduced to a minimum and that they are probably more than balanced by the great brilliancy of the illumination, which, since the lamp is fixed, and the focal distance of its rays always the same, the slightest apparent changes in the urethroscopic field cannot be ascribed to varying distances of the light and different angles at which the rays may enter the tube, as sometimes occurs with the electric head lamp. Besides the value of the former for class demonstration is incomparably superior.

In regard to the method which depends for its illumination upon an introduced mignon lamp to near its distal end, it has been easy for me to decide that its several grave disadvantages outweigh its single good feature, viz.: light and demonstrating purposes. These disadvantages are mainly that the lamp itself obscures part of the field, which when the medium-sized tubes only can be used renders them almost useless. Again the annoyance of avoiding the point of the lamp with the cotton swab, lest this may be pulled off its carrier, and the smearing the lamp with blood during swabbing make very objectionable features.

A rather long experience with the focussing head lamp which projects rays sufficiently strong and parallel to fairly illumine the field at the bottom of a six inch tube of 24 French caliber has led me to feel satisfied with this method and to retain unused in the great majority of cases an earlier pattern of Dr. Otis' lamp or the comparatively recent set of tubes fitted with the introduced mignon lamp. In fact only when it is desirable to demonstrate some lesion to one unaccustomed to the head lamp do I utilize either of the latter. But to one not prejudiced by some fixed practice I infer that this latest complete device of Dr. Otis would offer the fullest measure of satisfaction, and I congratulate him upon its perfection.

DR. SWINBURNE.—I have in the past two years done a good deal of urethroscopic work with the direct light, and since using it, have given up the projected light, which I had used for several years before. The present instrument I must say seems to me to fill every indication that one can ask for. I do not see any serious objection in it, and there can be no question about the beauty of the instrument. The illumination is better than any I have ever seen, but it seems to me I should like to see it in the urethra. I have found the objections, which have already been mentioned to the uncovered lamp close to the urethra. If it becomes covered with blood, as it often does when in use in the posterior urethra, the lamp must be removed to cleanse it. I discarded one set of tubes I had on that account because the lamp so frequently became covered with blood when used in the posterior urethra and also in swabbing, the point of the lamp was not infrequently caught by the end of the swab and disarranged. It was a distinct annoyance because it necessitated the removal of the lamp to replace it with another or else to straighten it. The Koch tube obviates this, but of course it has a serious objection, that even when you use larger tubes you lose at least the size of two millimeters F. in the use of the tube, if not more. This is a real objection when working with small tubes. Nevertheless, in the case of the larger tubes 28 or 30 F. this objection is not apparent, and as a working instrument fills all indications; the light is out of the way and very seldom becomes covered with blood or any other thing, which the previous instrument did in using swabs of nitrate of silver. Nitrate of silver coats the lamp and the lamp becomes darkened and you are obliged to cleanse with acid before it is capable of properly illuminating again.

It never has seemed to me that the mere taking up of the field with the light was an objection, but it is an objection when you are working inside of the tube with a swab or anything else. Then it is distinctly in the way, and we are glad to have it out of the way if we can; but, of course, every man will use the instrument he is most used to and the field to chose from now certainly leaves very little to be desired, it seems to me.

DR. BIERHOFF.—It has been now some years since I have been working with the urethroscope, first with the Grünfeld, then with the Nitze-Oberländer and Leiter and Casper instruments, and of late with the modified urethroscope or with the new instrument of Dr. Valentine as modified by Dr. Chetwood. I must say I cannot quite agree with Dr. Klotz that the head mirror is the most advantageous method—or rather the head mirror with the detached source of light. Personally I haven't been able to do very much with it. The Nitze-Oberländer had the drawback that it was cumbersome, although even with that very good work can be done. The Casper and Leiter instruments I used for a time and discarded. I have examined this instrument now with a good deal of interest and I think that of all the instruments where the source of light is outside of the urethra it is by far the best. I think it is less cumbersome, the light is decidedly clearer, and I think it probable that the amount of heat which the lamp generates will be far less than that of either the Casper or the Leiter instrument. I must say that the greatest amount of satisfaction in urethroscopic work I have obtained from the urethroscope with the source of light directly within the urethra. The nearness of the source of light, which takes up but a very small amount of room, I often find to be a great advantage, though when I first used this form I found the lamp to be a great hindrance in swabbing or in the application of chemicals. With a very few slight maneuvers one can, however, overcome the objections that might

arise from the presence of the lamp as regards the obstruction of part of the field. With the use of sufficiently small applicators one can avoid catching in the lamp, and with the use of the same small instruments properly devised for the urethroscope one can make all necessary applications without the lamp being a decided obstruction. Personally I must take my stand on the side of those who spoke for the source of light within the urethra, but as I said before, of all, those instruments which I have examined, where the source of light is exterior to the urethral orifice, I must admit that the instrument Dr. Otis has shown us this evening is by far the best.

DR. HAYDEN.—Although I am not using the endoscope now as much as in former years, the Otis instrument is in my hands far superior to all others on account of the brilliancy of the light and the unobstructed field.

DR. OTIS.—In reply to the remarks which have been made—in the first place it must be remembered that all these urethroscopes which are at present used are so far ahead of anything which was in use even three or four years ago for illuminating the urethra; and I remember very well when the Leiter instrument was looked upon as the most extraordinary advance, as it was at that time, in such work.

I also want to say in regard to the remarks of Dr. Hayden—to begin last first, that I am not at all an advocate of the use of the urethroscope to the exclusion of other methods of treatment of the urethra. On the contrary, it is only one of the adjutants in treating the urethra we have had.

In regard to the remarks of Dr. Valentine I have to disagree with his optics entirely, *à priori*. The only thing is that Dr. Valentine is wrong about that. If you can see the bottom of the tube it doesn't make any difference whether you have a funnel or a circle or anything else at the bottom—you can see it just as well; the object at the proximal end doesn't cut off any more of a funnel than if it was that shape, and the object was behind and cut off just so much. If you can see the bottom of the tube you can see anything—it doesn't make any difference. There is nothing up here which obstructs anything that you can see from the bottom of that tube. You can see the whole of the bottom of the tube; you can put anything below it here you want to—you can't cut it off from above as long as you put that object above.

There has been sufficient said in regard to the question of taking up the room in the tube, which to me it appears that the instrument does, and interfere with the view—it also, I haven't used it to a great extent, but to some extent, and I have found it a nuisance in swabbing and in making applications. Of course, we are all more or less used to one instrument or the other, as Dr. Klotz remarked, and we adapt ourselves to the disadvantage which each one must have. The ideal instrument would be one without anything; just put in a tube and look in and see the bottom; but there has got to be some sort of an obstruction either at one end of the tube or the other.

In regard to the head mirror, which, to a certain extent, obviates that, I found, probably because I am unskilful, more difficulty than from any other cause. You have to get over your tube all the time with your head mirror, and consequently moving around, you lose the light, and in addition to that you must remember that the intensity of the light varies as the square of the distance, and consequently every inch that you can gain by getting nearer your tube, so much better off are you, as far as the intensity of the light is concerned. That is, if you have a line 1 inch long and 2 inches long the light there will, instead of being twice as

dull there as it would if there were just half the distance, will be four times as dull, and when it comes to 4 inches there will be $\frac{1}{16}$ the amount of illumination and so on. It is according to the square of the distance, consequently when you have a head mirror and have it a considerable distance from your tube you are losing all that light. So you cannot begin to get the illumination on the field you can with the same light close up to your urethral wall. That is one advantage which your lamp has which makes it necessary for you to have a less intense light in order to get the same illumination. When you have a light with no more intensity than the one you have there and hold it off eight or ten inches from the tube the illumination cannot begin to compare with the illumination you get with a lamp of that kind.

In regard to the Koch tube, I find not only does the side tube take off from the size of the tube, although it seems only 2 m.m.; but the Koch tube is built on this plan: the light enters the tube near the bottom from the side. Now, there is there a certain distance of metal which the light coming always in straight lines cuts off and leaves a small portion—perhaps not such a very small portion, perhaps an eighteenth of the urethra, in shadow, so the shadow is always on the side upon which the light comes and a very distinct shadow, too; so that the urethral field is not as evenly illuminated as it is by any of the other instruments, for that same difficulty obtains to all the others to a certain extent—slightly with the instrument of Dr. Valentine, but nothing compared to the instrument of Koch; and also to the fact that the instrument takes up room on the side I should hardly think he had solved the problem of getting rid of the lamp. I prefer to take the chances of swabbing the lamp and getting the amount of room taken up by the tube and the shadow cast on the field.

One thing about this instrument which seems to bother so many of those—the amount of weight in that instrument does not bother me in the least, and for that reason I have made just that better fit—made it even smaller than that before, and it is considerably heavier and larger than this instrument; but because I am used to it I like it better than I do any of the others; but as a matter of fact the instrument could be made so it does not weigh $\frac{1}{10}$ part of what it does now, to my mind this is not the objection. The practical part of that instrument is nothing but a lense and a lamp and you can see it weighs but a few grains. I don't even make it of aluminum, because to me it seems sufficiently light; and as I say I certainly prefer to have my light always right there, so that when I am reaching for swabs, etc., I don't have to adjust the head mirror to get my light even without reference to the decrease of illumination; consequently I think we have a great advantage over the old head-mirror, although, as Dr. Klotz says, it is a matter of personal idiosyncrasy to a certain extent.

Selections.

The Diagnosis and Treatment of Pemphigus Vulgaris Chronicus.—P. G.

UNNA (*Die Therapie der Gegenwart*, 1901, p. 21).

After giving a detailed and minute differential diagnosis between pemphigus vulgaris chronicus and all other bullous affections, the writer brings the histories of pemphigus cases to emphasize the good effects he obtained from the applica-

tions of his zinc sulphur paste with continuous and prolonged use of arsenic internally.

He sees the efficacy of the paste revealed in the (1) quick healing of the bullæ; (2) in the quick disappearance of the concurrent erythema and (3) in toning the skin against new outbreaks of the bullæ.

In cases where Fowler's solution is not well borne by the stomach he advises the use of keratinized arsenical pills and simultaneous administration of muriatic acid.

Hernia of the Urinary Bladder.—By W. S. CHEESMAN, M.D. (*Medical Record*, June 22, 1901, page 985).

CHEESMAN was called to operate on a man, aged sixty-seven, suffering for eight hours from an irreducible strangulated inguinal hernia. On excising the sac he found the bladder wall firmly attached to it, and virtually inseparable. It seems probable that the weight of the hernia and sac had by traction on its peritoneal coat gradually drawn the corner of the bladder into the inguinal canal to the extent of over an inch.

After an elaborate discussion and review of the literature of the subject, the author concludes:

(1) That the principal cause of bladder hernia is direct traction exercised through the peritoneal coat by the weight of the hernial mass, or by the pull on the sac, during ligation in operations for radical cure.

(2) In one-sixth of the cases symptoms occur sufficient to arouse suspicion, sometimes amounting to certainty, of the existence of the abnormality.

(3) In about one-fourth of the cases it may be possible during operation to recognize the bladder and avoid injuring it; and after one hernial sac has been found, any structure resembling a second should be regarded as bladder, till proved otherwise.

(4) When the bladder is wounded, the best procedure is immediate suture by two layers of catgut, and closure of the hernial wound by Bassini's method; a small drain only being left leading to the bladder suture line. The bladder wall, when thinned, may be freely resected preparatory to closure. The catheter *à demeure* is not essential to primary union of wounds thus closed.

(5) Urinary fistula nearly always closes spontaneously.

(6) Injuries of the bladder have been directly responsible for death in only 10 per cent. of the hernia cases in which they occurred.

A. L. W.

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